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ABSTRACT

An evaluation was undertaken of the second year's work of a pilot adult literacy program called Project REACH (Reading, Education, Achievement), which was begun in 1987 in New York by the Governor's Office for Employee Relations (GOER) and the Civil Service Employees' Association (CSEA). The following findings were reported, among others: (1) although positive gains were observed for some measures used to evaluate student performance in the Volunteer Tutor Network geared to employees who read below the eighth-grade level, none of the results were statistically significant; (2) evaluation of the eight PALS (Principle of the Alphabet Literacy System: Computer Interactive Training Labs) that used personal computers and videodisk players to teach employees who read below the sixth-grade level showed positive gains for the writing and reading scales of the SKILLS Profile and for the Sample Job Application Form, and a statistically significant average gain of nearly one grade level was observed for the Test of Adult Basic Education (TABE); (3) the People Reaching People program, which used videotapes and a workbook to improve workplace literacy among mental hygiene therapy aides, results in positive gains on the Test of Adult Basic Education (TABE) and the three scales of the SKILLS Profile; (4) for the English-as-a-Second-Language students at one of two sites, a significant gain of nearly 12 points was observed on the JOHN test, which is an oral placement test for nonnative speakers of English, and a significant gain of nearly two points was observed on the writing scale of the SKILLS Profile; and (5) because pre- and posttest data were available on only a small number of participants, the actual beneficial effect on literacy skills may have been underestimated. Appendices provide instruments with responses as well as instructions and test forms. (CML)

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PROJECT REACH - FINAL REPORT JUNE 12, 1989

PROJECT REACH

A SECOND YEAR EVALUATION

FINAL REPORT

June 12, 1989

Prepared by:

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1. EXECUTIVE SUMMARY

The purpose of this Evaluation Report is to assess the progress of Project REACH (Reading, Education and Achievement). The program has now been in existence for approximately two years, having begun in February, 1987. A previous study conducted by the Center for Advanced Study in Education (CASE) of the Graduate School and University Center of the City University of New York (CUNY) from September 1987 to June 1988 provided evaluative data on the first year of the program. The present report consists of a re-evaluation of those components of the original Project REACH which were continued and expanded during the second year, as well as an evaluation of new components which were added in the second year. A major goal of the second year evaluation was to document student literacy gains in terms of pre and post scores on various criterion measures.

The Civil Service Employees Association's (CSEA) Labor Education Action Program and the Governor's Office for Employee Relations (GOER) commissioned Cybernetica, Inc. in 1986 to assess the need for training programs in adult education skills. The findings indicated a clear and pressing need for such programs. Cybernetica's Final Report indicated that 39% of the sample of New York State employees tested under the eighth-grade reading level and 21% scored under the sixth-grade level. In addition, Cybernetica found that there was a great deal of interest on the part of CSEA employees in upgrading their literacy skills. It was recommended, therefore, that CSEA/GOER expand its commitment to literacy instructional programs, by making such programs accessible to employees in the workplace.

Project REACH was a pilot literacy program administered by GOER and designed for employees represented by the CSEA. During its first year which began in February 1987, two different types of literacy programs were established at various sites:

> One-On-One literacy tutoring based on tutor-tutee pairs; known as Project REACH's Volunteer Tutor Network: One-on-One;
>
> Computer-assisted literacy instruction in small groups set up as PALS labs (Principle of Alphabet Literacy System.
>
> In addition, pilot work was conducted with respect to the use of videotapes to teach basic job skills. This "People Reaching People" program also included the development of a student workbook and an instructor's manual.

The previously mentioned first year report describes the evaluation of these three programs.

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In October 1,1988, at GOER's request, CASE undertook an evaluation of Project REACH during its second year. During the second year, evaluative data were obtained for the following four programs:

The Volunteer Tutor Network,

The PALS Labs. This program was expanded during the second year to include advanced material for students who had either mastered the basic PALS curriculum, or entered the program with more advanced skills,

The People Reaching People Program which became fully operational during the second year of the program. The introduction of enhancements to the original instructor's teaching manual represented a significant modification of the program,

The English as a Second Language (ESL) program which was introduced as a new program during the second year.

The data collected during the first year evaluation were merged with the data collected during the second year to provide a larger data base for assessing the impact of the program.

Volunteer Tutor Network: One-On-One

This component of the program, based in Albany, was a "tutor-tutee" approach geared to CSEA-represented employees who read below the eighth-grade level. Students and tutors from the New York State workforce committed two hours a week over a twelve-month period to tutoring sessions. Half the tutoring sessions were held on state release time, based on contractual union agreement; the other half were held on the employees' own time. Tutor training, provided by Literacy Volunteers of America (LVA) in 2.5 full workdays, was conducted entirely on state release time.

During the first year of the program the following data were collected on all tutees: (1) a biographical questionnaire which provided information on sex, primary language, and educational level, (2) pre and post scores on the three subscales (word reasoning, reading comprehension, listening) of the READ test (a test developed by LVA which yields grade level scores), and (3) pre and post scores on the writing, reading, and confidence scales of the SKILLS Profile (a self-report questionnaire measuring student perceptions of reading and writing skills). In the second year of the program an additional measure was added, the Sample Job Application Form (SJAF). This experimental measure,developed by the evaluation team, represented an attempt to obtain a criterion referenced or job related measure of literacy. It was constructed to resemble a typical job application form given to state workers. The evaluation plan called for the collection of both pre and post-test data for this measure.

Data were available for a total of N = 59 tutees. The statistical analyses of the post-pre test gains on the READ, SKILLS, and SJAF measures were not straightforward due to the occurrence of missing data. For most tutees only pre scores or post scores were observed. Only a relatively few number of students were measured both pre and post. Rather than simply analyzing the gains for this latter group, an attempt was made to incorporate all of the available data. The statistical analysis was based on a method which iteratively estimates the missing values. A complete description of this analysis is found in section 3.3.2.

The analysis of the background data as well as the post-pre test gains yielded the following major findings:

- English was not the primary language for 28 percent of the students;
- The majority of students were male;
- The median educational level was approximately grade 10. However, 20 percent of the students had an educational level of grade 3 and an additional 19 percent had an educational level between the 6th and 8th grade level;
- Although positive gains were observed for some of the measures, none of the results were statistically significant. This finding was attributed in part to two factors. First, the missing data effectively reduced the sample sizes and thus the statistical power or sensitivity of the analysis. Most importantly, some of the measures were affected by a ceiling effect, i.e., many students scored at the highest levels of the READ test on the pre measures. Consequently, it was not possible to accurately assess the gains.
- Anecdotal data collected on the tutees clearly suggests a positive impact for the program.

PALS labs (Principle of the Alphabet Literacy Systems: Computer Interactive Training Labs)

The second part of Project REACH, PALS, was an interactive videodisc program for New York State employees who read below the sixth-grade level. The original funding for this project was obtained through legislation introduced in 1986 by New York State Senator James Donovan who is

Chairperson of the Senate Education Committee. This funding, in excess of two hundred thousand dollars, provided for the setting up of eight labs. The PALS system is a structured, developmental literacy skills program, which utilizes IBM software and interactive videodisc equipment in office-like laboratories. A certificate of participation is granted after approximately 100 hours of participation in the program.

The Principle of the Alphabet Literacy System, developed by Dr. John Henry Martin, is a research-based interactive instructional system, which utilizes IBM word processors and typewriters for touch typing training, word and sentence composition, and the teaching of reading through phonics.

Project REACH administrators supervised the formation of eight PALS labs situated throughout New York State, each managed by a coordinator. For the current project, members of the CASE Evaluation Team visited two PALS sites - the Wassaic Developmental Center (February 8, 1989) and the Creedmore Psychiatric Center (March 2, 1989). At each of these sites the IBM literacy lab consisted of multiple personal computers, IBM Info Window systems (which enable students to use computers by touching their screens), and videodisc players containing the instructional audio/visual materials. In addition, supplementary software has been introduced which enables students to improve their reading comprehension and mathematics skills. This material comprises the Advanced PALS program.

The following conclusions were drawn from the evaluation team's observations concerning the PALS programs during the second year of the program:

* The labs were properly configured, and the instructors at each site were well trained in the use of the PALS materials.

* Each of the instructors who were observed were dedicated teachers who were personally concerned with the progress of their students.

* The pattern of use of the PALS system has clearly changed during the second year of the program. These changes can be summarized as showing much more flexibility and innovation in the use of the PALS hardware and software. Examples of these changes were the lessened use of typewriters and the increased use of the word processing system (Primary Editor), the lessened use of the InfoWindow systems, students working individually rather then with partners, and the increased use and desire for more computer-assisted instructional materials.

measures. It would also be useful to develop performance measures to assess reading proficiency in settings outside the job. Secondly, care must be taken to assure that the measures are of the appropriate difficulty level for the students. The READ test used in the analysis of gains in the One-on-One Program proved to be too easy for many students. The resulting ceiling effect made it difficult to accurately assess the gains.

- Since complete pre/post data were only available for a small number of participants, it is possible that the beneficial effect of Project REACH on literacy skills was actually underestimated. It is recommended that the need for complete and objective data collection be stressed to all site coordinators and tutors as part of their training.

Background data were collected from students at each of the PALS sites. The students can be described as follows:

- English is not the primary language for 41 percent of the students.
- The majority of students are female.
- The median educational level is approximately the tenth grade.
- Eighty-four percent of the students were formally enrolled in the regular PALS program, while nineteen percent were using the advanced PALS software.

The analysis of the gains on the Test of Adult Basic Education (TABE), the three scales of the SKILLS Profile, and the Sample Job Application Form(SJAF) was complicated by missing data. For the TABE and SKILLS measures, paired pre and post data were available only for a minority of students. These data were analyzed using the same methods employed in the analysis of the data set for the One-on-One Program. The analysis of gain on the SJAF was even more complex since there were no students who were observed both pre and post, i.e. only a pre score or a post score was observed for each student. The analysis in this case involved a statistical adjustment for differences in educational level between the pre score and post score groups. The details of this analysis can be found in section 4.3.2.

The following positive findings were obtained:

- Positive gains were observed for the Writing and Reading Scales of the SKILLS Profile, as well as for the Sample Job Application Form.
- A statistically significant average gain of nearly an entire grade level was observed for the TABE test.

People Reaching People (PRP): The use of videotapes to improve workplace literacy.

The People Reaching People program was developed by GOER to assist in the improvement of workplace literacy skills. It was particularly targeted for Mental Hygiene Therapy Aides (MHTA's) who are employed in New York State mental health facilities. The program has three basic elements: a series of videotapes which depict MHTA's performing various job tasks, a student workbook which provides questions with respect to the material contained in the videotapes, and an instructor's manual which suggests various approaches the instructor can use in discussing the videotape material and aiding students in completing their workbook assignments. The basic goal of the program is to strengthen the workers job-related reading and writing skills. The original instructor's manual has been significantly modified since its inception during the first year of the program. A critical review of the enhancements in the new instructor's manual has been provided by Dr. Mildred Lee and is found in section 5.2 of this report.

Plans exist for the eventual development of twenty PRP sites. At present, two sites are operational, Letchworth Village Developmental Center, and Newark Developmental Center. The data contained in the present report were gathered from the Letchworth Village site. This site was visited and observed by both Dr. Miriam Balmuth and Dr. Alan Gross on April 4, 1989. Dr. Balmuth's report is presented in section 5.3.

Complete pre and post test data were collected on N=6 students at the Letchworth Village program. The time interval between the administration of the pre and post measures ranged from 55 to 69 days. A descriptive analysis of these data show the following results:

* English is not the primary language for any of the participants.

* All of the participants are female.

* All of the participants have achieved a twelfth grade level of education.

* Positive gains were observed on all measures (TABE test, and the three scales of the SKILLS Profile).

* Dr. Lee's evaluation of the revised teacher's manual concluded that the new manual represented a major improvement over the old manual in that it provides useful teaching strategies and lesson plans to accompany the six videotapes. Further, the material contained in the manual is clearly related to the improvement of workplace literacy. However, there is still a need to include detailed lesson materials which focus on the teaching of basic reading skills.

* Dr. Balmuth's report describing the site visit to the People Reaching People Program at the Letchworth Village Development Center praised the program for its well trained and dedicated staff and the professional manner in which the program is conducted. Dr. Balmuth noted that the program appeared to stress the development of job related

writing and oral skills rather than basic reading skills. Since many of the students are foreign born it was noted that a supplemental ESL program would be beneficial. In addition, it was suggested that a counseling component be added to aid students having difficulties adjusting to the program

English as a second language (ESL).

Several factors underlie the introduction of ESL programs as part of the overall REACH program. During the first year of the REACH program it was observed that a substantial number of students enrolled in the PALS program needed ESL training because their native language was not English. Since the IBM Corporation had no firm plans for developing an ESL program as part of the PALS program, a search was undertaken by GOER to identify already existing ESL programs which could serve as possible models for the REACH program. Such a program was identified at SUNY Stony Brook. Initial plans called for the development of five ESL sites. At present two sites are operational, SUNY Stony Brook, and Pilgrim Psychiatric Center. However, plans call for the establishment of a new class at Letchworth Village, and two new classes in Albany within the very near future. In addition, there are plans to establish an additional seven to eight programs this Spring. It should be noted that the ESL classes are available to non-CSEA employees on a space available basis, i.e., when there are unfilled openings in the class.

It should also be noted that unlike the other three REACH programs, the ESL program is not directly funded by REACH, but rather by the Employment Preparation and Education Fund. However, REACH is still substantially involved in the ESL program since it provides the following important services: (a) the publicity needed for recruitment, (b) the administrative support needed for the establishment of the classes, e.g. arranging for the instructor and the classroom location, (c) the followup testing needed for the evaluation of the effectiveness of the program.

The ESL program at the Pilgrim Psychiatric Center was visited on January 25, 1989 by Dr. Alan L. Gross, and Ms. Teresa Castaldi, an ESL specialist. On March 23, 1989 a site visit was made by the same individuals to the SUNY Stony Brook site. The analysis of the background variables produced the following results:

- 22 percent of the students were male, and 78 percent were female.

- As expected, English was not the primary language for any of the students.

- The median educational level was the eighth grade.

The analysis of the post-pre score gains on the JOHN test (an oral placement test for non-native speakers of English) and the three scales of the SKILLS Profile was not straightforward due to the absence of any complete pre and post data. Since the Stony Brook program began prior to the evaluation study, only post-test data were collected on the SKILLS Profile and the JOHN test. For the Pilgrim State program, only pre-test data were collected on these two measures. This type of missing data pattern was also encountered in the analysis of the data from the PALS Program and was analyzed in the same manner by adjusting for educational level differences between the pre and post groups. This analysis produced the following positive results.

- A significant gain of nearly 12 points was observed on the JOHN test.

- A significant gain of nearly two points was observed on the Writing scale of the SKILLS Profile.

Overall Comments

Based on this second year examination of Project REACH, the CASE Evaluation Team concludes that all four components of the program continue to show potential and are effective. This conclusion is based on the direct observations of the various programs, the qualitative data on individual students, and the statistical analysis of the test score gains. In the 1987-1988 evaluation of Project REACH, the program was commended in several areas: responding to an urgent and pervasive need to improve literacy skills in the workplace among New York State government workers as documented in a prior study (Cybernetica, 1986), providing a familiar and non-threatening environment by offering all of the instruction in the workplace, and arranging for the release time for program participants. Additionally, it was noted that GOER staff members as well as tutors and PALS lab personnel were conscientious, hard working, dedicated, and highly motivated individuals. Based on our examination of the second year of the project, it is felt that all of these commendations equally apply to the second year of the program. The following additional comments can be made based on the second year evaluation:

- The expansion of the REACH program to include the People Reaching People component and the English as a Second Language program represents important and meaningful new directions for the program. The PRP program applies literacy training to the actual workplace, while the ESL program addresses the needs of CSEA workers who are not proficient in English.

- The introduction of the Advanced PALS program has enabled PALS coordinators to introduce the students to more advanced reading and mathematical material. These materials basically comprise an individualized computer assisted instructional program. The material is especially useful for students who either enter the program with more than marginal skills or for students who have completed the first phase of the PALS program.

- This evaluation has been able to document statistically significant gains for the PALS and ESL Programs. Positive gains were also observed for the People Reaching People program. The anecdotal data collected on the tutees strongly suggests that the One-on-One program is beneficial.

In the 1987-1988 report several recommendations were offered concerning potential improvements in the program. Additional recommendations based on the current evaluation are as follows:

- An analysis of the biographical data for the students participating in the Tutor-Tutee, PALS, and PRP programs showed that a substantial number of students did not speak English as their primary language. It is likely that many of these students would benefit from an ESL program prior to entering one of the three other REACH programs. It is recommended that students be carefully screened with respect to their language competence and first placed in an ESL program if needed. Another approach would be to modify the reading programs so as to accomodate ESL needs. In other words, it might be possible to offer reading and ESL instruction simultaneously.

- The issue of valid measures and tests in documenting the success of a program is still an important issue for Project REACH. First, it is not clear if normative measures such as the READ and TABE tests are valid measures of adult workplace literacy. The introduction of the Sample Job Application Form represents an attempt to develop a more appropriate measure. It is recommended that additional research be conducted with respect to the Sample Job Application Form and other workplace relevent criterion referenced

2. INTRODUCTION

The Civil Service Employees Association's (CSEA) Labor Education Action Program and the Governor's Office for Employee Relations (GOER) commissioned Cybernetica, Inc. to undertake research "to assess the need, among CSEA represented employees, for training programs in adult basic educational skills." (p.ii) In its Final Report (1986), Cybernetica, Inc. reported the following data about reading levels of a sample of State employees who had been assessed:

> A median reading grade level equivalent of 10 years and 0 months was observed for the sample as a whole. Approximately 75 percent of the sample scored below what would be expected for persons who had completed twelve years of formal education. Approximately 39 percent fall below what would be expected for persons who had completed eight years of formal education, and 21 percent fall at or below what would be expected for persons with only a primary education, i.e. six years. These reading levels are comparable to those of similar groups in the general population. From the observed reading levels it is projected that at least 57,000 read below the twelfth grade level, at least 26,000 read below the eighth grade level and a least 16,000 read at or below the sixth grade level. (p. iii)

It was also reported that there was a great deal of interest on the part of CSEA employees in upgrading their literacy skills. It was recommended, therefore, that CSEA/GOER expand their commitment to literacy instructional programs.

In response to the needs outlined in the Cybernetica report, Project REACH (Reading, Education and Achievement) was begun in February, 1987 as a pilot literacy program administered by GOER and designed for employees represented by CSEA. Project REACH initially consisted of two programs: One-On-One literacy tutoring known as the Volunteer Tutor Network, which was based on tutor-tutee pairs, and the PALS Program (Principle of Alphabet Literacy System) which provided computer-assisted instruction in small groups. In addition, pilot work was conducted with respect to the use of videotapes to teach basic job skills. This latter program, People Reaching People (PRP), also included the development of a student workbook and a teacher's manual.

During the second year, the program was expanded beyond the original One-On-One and PALS components to include the following two new components:

> The People Reaching People Program became fully operational during the second year. The introduction of enhancements to the original instructor's teaching manual represented a significant modification of the program
>
> An English as a Second Language (ESL) program was introduced to meet the needs of CSEA workers for whom English was not the primary language.

In summary, the REACH program now consists of four components: One-on-One tutor-tutee pairs, PALS (computer assisted instruction), People Reaching People (videotape based program), and English as a Second Language.

A previous study conducted by the Center for the Advanced Study in Education (CASE) of the Graduate School and University Center of the City University of New York (CUNY) from September, 1987 to June, 1988 provided an evaluation of the first year of the REACH program. On October 1, 1988, at GOER's request, CASE undertook an evaluation of Project REACH during its second year of operation. The present report will describe the findings of this second year evaluation. Included in this report are a re-evaluation of components of the original program (One-on-One, PALS) as well as an evaluation of the new components (PRP, ESL) which became fully operational during the program's second year. A major goal of the second year evaluation was to document student literacy gains in terms of pre and post scores on various criterion measures. The data base for the evaluation consisted of a merged data set consisting of both the first and second year data. The results for each of the four program components are presented in sections 3-6. Section 7 contains a summary of the findings as well as recommendations.

3. VOLUNTEER TUTOR NETWORK: ONE-ON-ONE COMPONENT

3.1 OVERVIEW

The one-on-one tutoring component of the pilot program was designed for CSEA employees who read below the eighth-grade level. Volunteer tutors, initially screened by REACH staff members and then trained in two and one half-day workshops by Literacy Volunteers of America (LVA) consultants, were paired with tutees, who wanted to improve their literacy skills. Each student and tutor pair - both members of the State workforce - comprised a "buddy" relationship which required them to spend at least two hours per week together over a twelve-month period for the purpose of building reading and comprehension skills. Tutors' training was done entirely on State release time; half the time for tutoring sessions occurred on State release time, with the other half on employees' own time. The One-on-One program was based in Albany.

The first year or 1987-1988 report provided data on N = 36 tutees. During the second year, data were obtained on an additional N = 23 tutees resulting in a total data base of N = 59 tutees. The data available for the first year tutees consisted of the following: (a) biographical information with respect to primary language (English or Other), gender, and years of education, (b) pre and post-scores on the three scales of the SKILLS Profile, a 40 item questionnaire measuring student perceptions of reading and writing skills, and confidence level, and (c) pre and post-scores on the three subscales of the READ test (word reasoning, reading comprehension, and listening). The READ test was developed by the Literacy Volunteers of America and provides grade level scores ranging from non-reader up to grade level 5.5. An additional measure was added for the second year tutees, the Sample Job Application Form (SJAF). This experimental measure represented an attempt to obtain a criterion referenced or job related measure of literacy. It was constructed by CASE to resemble a typical job application form given to state workers. The SJAF consisted of 15 items with possible scores ranging from 0 to 31. Copies of the biographical questionnaire, the SKILLS Profile, and the SJAF can be found in the Appendix. The analysis of the data described in (a), (b), and (c), as well as the analysis for the SJAF measure can be be found in section 3.2.

In addition to the quantitative test score data, qualitative data in the form of vignettes for individual tutees were collected. These data will be presented in Section 3.3.

3.2 AN ANALYSIS OF THE DATA COLLECTED FROM THE ONE-ON-ONE PROGRAM

3.2.1 Background Data

An analysis of the biographical data for the N = 59 tutees with respect to gender, primary language, and educational level is presented in Table 1. In addition, Table 1 contains information on the following four variables which were obtained from items 37-40 of the SKILLS Profile: reported number of hours of reading per week, reported number of hours of writing per week, reported number of hours of TV watching per week, and the reported number of hours spent in the REACH program per week. These measures were obtained at two time periods, prior to the tutoring, and after a minimum of approximately three months of tutoring.

Table 1. Biographical Data for the Tutees (N = 59)

	% Male	% Female
SEX	54.7	45.3
	% Yes	**% No**
English Primary Language	71.7	28.3

	Grade	Frequency	Percent
Education Level	3	11	20.4
	6	4	7.4
	7	3	5.6
	8	3	5.6
	9	2	3.7
	10	6	11.1
	11	8	14.8
	12	17	31.5

	Pre		Post	
	Mean	Std	Mean	Std
Number of hours reading/week	6.9	7.9	5.5	4.6
Number of hours writing/week	4.4	4.7	4.9	9.9
Number of hours TV/week	15.2	11.9	11.9	10.9
Number of hours/week in prog.	3.2	2.7	3.8	3.7

The following results can be seen in Table 1:

- The majority of the students were male.

- A language other than English is the primary language for approximately 29 percent of the tutees.
- The distribution of educational level is "U" shaped with approximately 1/4 of the students having only 6 years or less of education and 1/3 of the students having a level equal to the twelfth grade. The median educational level is approximately grade 10. A followup analysis of the 17 students having an educational level of grade 12 showed that 8 of these students did not have English as their primary language.
- With respect to weekly hours of reading, writing, and TV viewing, the number of reported hours pre and post was respectively 6.9-5.5, 4.4-4.9, and 15.2-11.9.
- Students reported spending on average 3.2 (pre) to 3.8 (post) hours per week participating in the Program.

3.2.2 Post-Pre test analysis of gains

Major interest was focused on the post-pre analysis of the three scales of the READ test, the SKILLS Profile, and the Sample Job Application Form (SJAF). The READ test consisted of three scales: Word Reasoning (WR), Reading Comprehension (RC), and Listening Level (LL). The test is scored in terms of ten possible grade levels:

1 = non-reader,
2 = up to grade 1.5,
3 = grade 1.6-2.0,
4 = grade 2.1-2.5,
5 = grade 2.6-3.0,
6 = grade 3.1-3.5,
7 = grade 3.6-4.0,
8 = grade 4.1-4.5,
9 = grade 4.6-5.0,
10 = grade 5.1-5.5.

The SKILLS Profile contained 36 yes-no questions which measured student perceptions of their reading and writing skills. Rather than analyzing each question separately, the 36 questions were clustered into three scales, SKILLS-Writing, SKILLS-Reading, and SKILLS-Confidence. Results for the 36 individual items can be found in the Appendix. As noted by their titles, the scales are self report measures of writing skills, reading skills, and level of reading-related confidence. The scales consisted of the following yes-no items:

SKILLS-Writing (n = 8 items)

(1) I have the writing and reading skills I need.

(6) I have problems with spelling.

(8) I have difficulty expressing myself in writing.

(17) I write shopping lists.

(18) I write notes to myself.

(19) I write my thoughts and feelings.

(27) It is difficult for me to fill out forms.

(29) I have problems writing checks or money orders.

(33) I vote.

SKILLS-Reading (n = 20 items)

(1) I have the writing and reading skills I need.

(2) I can recognize all the letters of the alphabet.

(6) I have problems with spelling.

(9) I have problems reading aloud.

(12) I read at home.

(13) I can read newspapers.

(14) I can read magazines.

(15) I can read labels

(16) I can read novels and short stories.

(20) I have problems reading numbers.

(22) I have difficulty reading menus.

(23) I have difficulty reading maps.

(24) I have difficulty reading job instructions.

(25) I have difficulty reading street signs.

(27) It is difficult for me to fill out forms.

(28) I find employment applications confusing.

(32) I can read from the Bible.

(33) I vote.

(34) I can read election ballots.

(36) I can read the contents on cans and packages.

SKILLS-Confidence (n = 8)

(7) I have problems expressing my ideas when I talk.

(10) I have tried to develop my reading skills by myself.

(11) I think I can improve my reading and writing skills through this program.

(21) I like to talk about what I read.

(26) I think there are some important things I miss out on because of my reading level.

(30) I feel sorry for myself because of my reading skills.

(31) I am embarrassed at times because of my reading level.

(35) I consider myself a capable worker.

Total scores were obtained for each of three scales by scoring each item in the appropriate direction.

The original data analysis plan called for post-pre test comparisons for the three scales of the READ test, the three constructed SKILLS scales (Writing, Reading, Confidence), and the Sample Job Application Form. Unfortunately, it was not possible for GOER to collect complete data on all tutees. The basic format of the tutor-tutee program where students meet at various locations and times, rather than at pre-scheduled classes, produced difficulties for data collection. Although attempts were made by GOER staff to arrange for test dates, problems associated with changing work schedules, sick leaves, and vacations for both the tutors and tutees, hampered the data collection.

The presence of missing data complicates the investigation of the impact of the program since pre and post scores are not paired for each tutee. However, it is still possible to investigate gains in terms of post-pre score differences. In analyzing the incomplete data, one must introduce assumptions concerning the process which produced the missing data. In other words, one must consider the question; why are there missing data?

The simplest assumption to make is that the missing data are missing completely at random (MCAR). We may not know the exact reason for the missing data, but we assume that the process is completely unrelated to the scores of any of the variables under consideration. Under this assumption, one could simply analyze the post- pre score changes using only those tutees for whom complete pre and post data are available; cases having missing scores would be deleted from the analysis. It is important to note that when the MCAR assumption does not hold, an analysis of the complete cases will yield biased results.

A more realistic assumption is to assume that the missing data are not missing completely at random, but rather are missing as a function of the observed data. In this situation, the missing data are said to be missing at random (MAR). For example, suppose tutors tended not to administer the READ test to tutees who had "low" educational levels. This result could be detected by observing that the average educational level for tutees not having READ scores is lower than the average educational level for those who have READ scores. Since the variable of educational level is observed on nearly all subjects, it can be said that the missing data for the READ test are missing as a function of the observed data, i.e., as a function of educational level. In essence, the fact that one understands the basis for the missing data (for example, the educational level of the tutees) allows for an adjustment to be made in the analysis. The statistical analysis basically consists of making use of all of the observed data, and iteratively estimating the values of the missing data. The method of analysis is known as the EM algorithm and is described in Little & Rubin (1987). This analysis was employed in the investigation of the post-pre changes for the READ and SKILLS scales. The analysis was performed using all of the available data (educational level, pre and post scores on the READ and SKILLS scales) for all N = 59 tutees. The algorithm was implemented using the BMDP Statistical Software package (1983).

One further point should be made concerning the proposed treatment of the missing data. There are situations where even the MAR assumption does not hold. In these cases the missing data are missing as a function of unmeasured variables, rather than as a function of observed variables. Further, these unmeasured variables may be related to the missing data values, given the observed data. For example, suppose there was a tendency for "anxious" individuals not to be tested. Also suppose that anxiety level is an unmeasured variable which is related to performance on the READ test even after controlling for all of the observed variables. In this situation, the proposed analysis based on iteratively filling in the missing data may produce biased estimates of the amount of gain since one cannot make the appropriate adjustments with respect to the unmeasured variable. In these types of situations one can still adjust for the missing data if there is, (1) a clear understanding of the non-random missing data process, and (2) there is a sufficiently large observed data base. In the present study it was felt that neither of these criteria were met. Thus, the analysis was performed under the more restrictive MAR assumption. It is felt that although the MAR analyis is not the most general, it will produce reasonably accurate estimates of the post-pre gains. Further, this analysis will be more accurate than simply analyzing the complete data alone.

Table 2 presents the analysis of the post-pre score changes for the three scales of the READ test (Word Reasoning, Reading Comprehension, Listening Level) and the three SKILLS scales (Writing, Reading, Confidence). Three analyses are presented.

The first analysis (A) is purely descriptive and simply describes The sample sizes (N), means (M), and standard deviations (Std) for the data set. These statistics are computed using all of the available data. The analysis is entitled "Descriptive Analysis". An inspection of the pre and post sample sizes for this analysis clearly shows the extent of the missing data.

The second analysis (B) is based on the assumption that the missing data are missing completely at random. These analyses were performed after deleting any tutee who did not have complete pre and post data on each of the variables. This analysis is entitled " Analysis Based on Complete Pre and Post Data".

Section C of Table 2, entitled "Analysis Based on an Adjustment for Non-Randomly Missing Data ", is the analysis of primary interest. This analysis is based on the assumption that the missing data are not missing completely at random, but can be assumed to missing as a function of observed variables. This latter analysis provides descriptive statistics as well as t-tests on the statistical significance of the post-pre test gains.

It should be noted that in all the analyses presented in Table 2, the READ scores have been transformed into a continuous measure and no longer represent simple grade levels. This transformation was necessary since the original scores are categorical. The transformation was done by assigning a value of 1 for the non reader level, a value of 2 for a reading level of up to grade 1.5, a value of 3 for a grade level from 1.6 to 2.0, and so on until the highest level of grade 5.1-5.5 is assigned a value of 10. If one divides the means for the READ scales by a factor of 2, the resulting values will approximately be the grade level equivalant. For example, a reported mean of 10.0 can be interpreted as a grade level of approximately 5.0.

Table 2 Post-pre test analysis for the READ and SKILLS scales.

A. Descriptive Analysis

	Pre			Post		
Variable	N	M	Std	N	M	Std
WORD REAS. (WR)	49	5.8	3.5	19	5.1	3.8
READ.COMP. (RC)	54	6.3	3.5	19	5.4	3.5
LISTEN. LEV (LL)	47	6.8	3.4	19	8.7	2.2
SKILLS-WRITE (S-WRITE)	22	2.4	1.7	12	2.4	2.0
SKILLS-READ (S-READ)	21	10.4	2.6	12	10.1	1.6
SKILLS-CONF. (S-CONF)	21	4.9	1.3	12	5.2	.9

B. Analysis Based on Complete Pre and Post Data

	Pre			Post			
Variable	N	M	Std	M	Std	Gain	t-value
WR	17	4.3	3.7	5.0	3.7	.7	1.00 ns
RC	19	5.3	3.8	5.4	3.5	.1	.08 ns
LL	17	6.1	3.3	8.7	2.3	2.6	2.71 p<.01
S-WRITE	9	2.7	1.7	2.2	2.1	- 5	-1.51 ns
S-READ	8	10.1	1.6	10.1	1.4	0.0	0.00 ns
S-CONF	9	4.6	.9	5.2	1.0	.7	1.79 ns

C. Analysis Based on an Adjustment for Non-Randomly Missing Data

	Pre		Post			
Variable	M	Std	M	Std	Gain	t-value
WR	5.9	3.4	5.3	3.9	-.6	-.60 ns
RC	6.4	3.5	5.7	3.7	-.7	-75 ns
LL	6.9	3.3	8.5	2.3	1.6	1.46 ns
S-WRITE	2.6	1.8	2.3	1.7	-.3	-.69 ns
S-READ	10.5	2.8	9.8	1.7	-.7	-60 ns
S-CONF	4.9	1.4	5.1	1.1	.2	.45 ns

The results in Table 2 can be summarized as follows:

(a) An inspection of the N values in section A shows that there was a considerable amount of missing data. For example, whereas N = 49 pre scores were observed on the word reasoning scale of the READ test, only N = 19 post scores were observed.

(b) There is a clear difference between the results presented in section B (analyzing the complete data only under the MCAR assumption) and the analysis in section C which is based on the less restrictive MAR assumption. In general, there are larger observed gains in section B when only the complete data are considered. The fact that the results in sections B and C differ suggests that the assumption of data missing completely at random is not tenable. Thus, it is the results in section C which should be emphasized.

(c) The results in section C show that there were positive gains for the Listening Level scale of the READ test (average gain = 1.6, i.e. approximately .8 grade levels), and for the Confidence scale of the SKILLS Profile (average gain = .2). All of the other variables showed negative gains. However, it is important to note that none of the six gains shown in section C are statistically significant.

In general, the results presented in Section C do not support the hypothesis that in terms of the READ and SKILLS scales there is a gain from pre to post scores. It is difficult to interpet the meaning of this result due to two factors. First, the missing data lower the sensitivity of any statistical analysis of the gains. It is possible that some of the positive gains might have been significant if a more complete data base had been observed. Secondly, there is a clear ceiling effect operating with respect to the three READ Scales. More specifically, it was observed that over 30 percent of the tutees scored at the highest levels of the READ test. In other words, for many tutees the test was too easy. Consequently, possible gains were masked by the inability of tutees to score beyond the maximum grade level of 5.5. There is a clear need to replace the READ test with reading measures having a wider grade level range.

As previously noted, the original data analysis plan called for an investigation of post-pre score gains in the Sample Job Application Form. (A copy of the SJAF can be found in the Appendix). This measure represented an attempt to obtain a criterion or job related measure of literacy. The form was modeled after a typical job application form and consisted of 15 questions. Questions 1-4 dealt with basic background information; questions 5-8 dealt with prior education; questions 9-12 dealt with past employment history; questions 13-15 were based on reading comprehension skills. The questions were either multiple choice or required the tutee to provide short answers.

The scoring system for the form allowed for a range of scores from 0 to 31. Unfortunately, GOER could obtain only pre score data on this measure. Without post data on any tutees, it is not possible to analyze the post-pre score gain for this measure. Table 3 contains the frequency distribution of the pre scores for the SJAF as well as the mean and standard deviation. The data were obtained from the sample of N = 11 examinees who were administered the measure.

Table 3. Pre scores for the SAMPLE JOB APPLICATION FORM (N = 11)

Score	Percentage	
0	9.1	
4	9.1	
7	9.1	
14	9.1	
18	18.2	Mean = 16.7
19	9.1	Std = 9.7
21	9.1	
26	9.1	
27	9.1	
28	9.1	

In the absence of post scores for the SJAF, it is not possible to draw any conclusions with respect to gains from Table 3. However, it should be noted that the SJAF scores exhibit a wide range without a noticeable ceiling effect being present. Thus, the SJAF shows some promise as a measure of student performance.

3.3 Anecdotal Data

In addition to the test data, an attempt was made to obtain narrative or qualitative data concerning the progress of individual tutees. This information was obtained during a meeting with GOER staff on March 17, 1989, and from written narratives collected as part of the 1987-1988 evaluation.

Students entered the Project REACH program with a wide variety of goals and prior skills. Many students reported their intention to improve their reading level and some considered the possibility of taking civil service examinations in order to achieve new and often higher paying jobs. One student has already achieved his goal of obtaining the GED degree. Many students reported a general improvement in their ability to function in society and in their self confidence through their increased ability to perform tasks requiring facility with language skills. For example, one student has written a letter to the Governor describing the student's prior difficulties in school. Another now has the self confidence to represent himself before the Worker's Compensation Board. Students have found that they gained facility in writing checks, reading maps, taking driving tests, applying for citizenship papers, speaking, reading labels and signs, and reading to children. Students also report higher degrees of personal involvement in their jobs.

One of the most interesting accounts of student progress was published in the February 6, 1989 edition of "The Public Sector". This article concerned the progress of Tim Girvin, a CSEA member of the state Office of General Services grounds crew in Albany. " Tim Girvin has shown excellent progress in advancing his reading skills since he began in the REACH program in July, 1987. He has been rewarded with a much higher level of comprehension, has realistic hopes for promotions that previously were not possible and his confidence is soaring. In recognition of his achievements, Girvin has been named the first "REACH student of the Month" by CSEA's Labor Education Action Program (LEAP), which administers the REACH project along with several other education programs for the union. Girvin also won honors in January for a brief essay he wrote as part of the "Celebration of Literacy" program. He freely admits that without REACH he would not have been involved in that celebration because he would not have been able read about it in the first place".

3.4 Summary and Findings (One on One Program)

The One on One component was evaluated in terms of pre and post-test data on the following measures: the three subscales of the READ test (word reasoning, reading comprehension, and listening level), the three constructed scales of the SKILLS Profile (writing, reading, and confidence), the Sample Job Application Form, as well as narrative data obtained for the tutees. The analysis for each of the pre and post test measures is complicated by missing data on the pre and post scores. Rather than analyzing only those tutees having complete pre and post data, the entire data set was analyzed using a method which iteratively estimates the missing data values. This method of analysis does not require that the missing data are missing completely at random, but is based on the more realistic assumption that the missing data are missing in a non-random fashion as a function of the oberved data. Using this analysis, the gains on the READ and SKILLS scales were investigated. None of the gains were found to be significant. This finding can in part be attributed to the lack of sensitivity of the statistical tests due to the missing data, and ceiling effects for some of the measures. An analysis of the narrative data collected for the tutees clearly suggests that the program is having a positive and meaningful impact on the lives of the students.

4. PALS (PRINCIPLE OF THE ALPHABET LITERACY SYSTEM): COMPUTER INTERACTIVE TRAINING LAB

4.1 Overview

A description of the PALS program has been provided by Dr. Trudy Abramson of Baruch College of the City University of New York. Dr. Abramson is an expert in the field of computer assisted instruction. The material presented below has been excerpted from Dr. Abramson's report (Section 4.2) describing a site visit to the PALS lab at the Creedmoore Psychiatric Center.

> "PALS, developed by Martin (1986), is an interactive computer instructional system that uses the touch-screen technology of the IBM InfoWindow System. This system combines the power of the IBM PS/2 or IBM Personal Computer with the flexibility of the laser videodisk to provide voice and images. Simply by touching the screen, students can control the flow of information, repeat instructions and pace the rate of presentation; the computer guides the student through the learning process. Students learn phonemic spelling and to read and write by recognizing different phonemes, or letter sounds. They also learn the alphabetic principle of how to combine the 26 letters of the English alphabet to form words. The cost of a typical PALS lab is around $60,000. It can be used 24 hours a day, a feature that is attractive in work settings having employees who cover three shifts. The hardware includes touch-sensitive video display units, interactive videodisk players, personal computers, typewriters and dictaphones in office-like laboratories. The software, audio and video, leads participants through basic literacy skills in reading, word and sentence composition, and touch typing. A student work journal reinforces the audio and visual learning of the videodisks (Martin, 1986).
>
> PALS, presented in colorfully-illustrated comic book fashion on InfoWindows, tells a story about the invention of reading and writing in the mythical kingdoms of King Alpha and Queen Bet. The fable shows how the two kingdoms almost get into armed conflict, because of the inability to communicate in a written language. Thus, the need for precise communication is illustrated and relationships among images, sounds and ideas are demonstrated. Student are asked by the system to duplicate the sounds orally and to type the words as spoken by the system. Phonemic spelling is accepted as correct."

During the second year of Project REACH the PALS program has been expanded to include "Advanced PALS". This component of the program is based on the use of computer assisted instructional materials which are geared to the improvement of both reading comprehension and mathematics skills. Access to this new software is open to all students at the discretion of the PALS coordinator.

The GOER PALS program component of Project REACH is currently equipped to operate in eight centers throughout New York State: Kings Park Psychiatric Center, Pilgrim State Psychiatric Center, Creedmoor Psychiatric Center, Hudson River Psychiatric Center, Broome Developmental Center, Brooklyn Developmental Center, Letchworth Village Developmental Center, and Wassaic Developmental Center. The program is made available to CSEA workers who read below the sixth-grade level. A certificate of participation is granted after approximately 100 hours of participation.

During the 1987-1988 evaluation of the PALS component, pre and post data were collected on the TABE test and the SKILLS Profile. In addition, biographical data were obtained on all participants. The data were collected from three of the sites: Brooklyn Development Center, Kings Park Psychiatric Center, and Pilgrim State Psychiatric Center. During the second year of the program, additional data on these measures were obtained from the remaining five sites. Both data sets (i.e., from the first two years) were merged and analyzed as part of the present evaluation. During the present second year evaluation, pre and post data were also obtained on the Sample Job Application Form. Additionally, site visits were made to the PALS labs at the Wassaic Development Center and Creedmoore Psychiatric Center by Dr Trudy Abramson and Dr. Alan L. Gross. Dr. Abramson's report is presented first (Section 4.2), followed by a description of the statistical analysis of the collected data (Section 4.3). Qualitative data in the form of a description of the accomplishments of students upon completing the PALS Program were obtained from some of the PALS coordinators. These data are presented in Section 4.4. Section 4.5 contains a summary of the results.

4.2 Dr. Trudy Abramson's Site Visit Report.

Observations of PALS labs for CSEA Workers

Wassaic Developmental Center

Creedmoor Psychiatric Center

Introduction

Principle of the Alphabet Literacy System (PALS) labs, designed and developed by IBM and Martin (1986) are self-contained, functional literacy packages delivered on state-of-the-art computer technology. New York State Governors Office for Employee Relations (GOER), as part of a larger literacy initiative, established eight half-size PALS labs in state facilities that employ large numbers of civil servants. Participation in this program is open to New York State employees who read below the sixth grade level as determined by the Test of Adult Basic Education (TABE). At this writing, March 1989, the sites have been in operation for approximately eighteen months. This observer, an educational computing consultant, visited two sites, Kings Park Psychiatric Center and Pilgrim Psychiatric Center, during the pilot year of operation and two additional sites, Wassaic Developmental Center and Creedmoor Psychiatric Center at this time. Observations of the first two labs are included in *Project Reach final evaluation report* (Gross, Lee & Zuss, 1988). Observations of the two latter sites follow.

PALS labs for CSEA workers

PALS labs are total packages that encompass furnishings, hardware and software. A complete lab is made up of sixteen electronic workstations as described below. GOER set up eight half-labs in psychiatric and developmental facilities in New York State that employ large numbers of functionally illiterate adults. Based upon visits to four of the eight labs, this observer concludes that the "half-lab" decision was based upon the dimensions of available rooms as well as upon economic considerations. Each lab is a self-contained, newly furnished and painted, well-lit room. There are two typewriter stations with dictaphones, earphones and document stands at each. Four computer systems, IBM PS/2 25s are clustered in two groups with each group sharing a printer. Two highly sophisticated InfoWindow systems, each with voice output and touch screens, hooked to individual video diskdrives and three sets of earphones complete the workstation package. The equipment rests on computer stations with the appropriate 26 and 1/2 inch height; the chairs are all ergonomically designed secretarial seats and are on wheels so that they may be moved easily from station to station. Each lab also contains a teacher's desk and chair and a roundtable with four armchairs. Two posters are in view: Principles of Alphabetic Literacy System and Phonemic Chart. In addition, there is a vertical file cabinet that holds student records and a small set of shelves to hold library materials available to the participants in the program.

The students

The students in the program are all adult workers, members of the CSEA. Some are people for whom English is a second language but an equal number are native-born Americans whose childhood education terminated in failure. The jobs they perform as civil servants include the many aspects of food service, facility maintenance, nursing assistance, laundry and grounds work. Participation in the program is voluntary; although students attend PALS sessions during their work day, no one's workload is lightened.

Wassaic Developmental Center

On February 15, 1989, Dr. Alan Gross, the principal evaluator of Project REACH, and I visited Wassaic Developmental Center's PALS lab in Dutchess County, New York. We met with Rosalie McClinton, Wassaic's only teacher charged with administering, mentoring, and maintaining the program. She was open and enthusiastic and very happy to share the program's experiences with us.

Students

At Wassaic, classes meet three times a week for one hour at each meeting. At this time there are a total of eleven students in two classes given at 1:30 to 2:30 PM and 2:30 to 3:30 PM. Students are given released time to attend classes with three hours per week the maximum time allotted to any group of workers. The students are employed in food service, direct care,maintenance and housekeeping; many hope to become mental health therapy aides (MHTAs), a job that requires a greater degree of literacy than they currently display. Students are recruited by members of the educational staff who distribute flyers and post materials provided by the state. Also, whenever possible, the teachers address groups of workers at CSEA meetings to inform them of this high-tech literacy opportunity. There were six students in a prior pilot administration of PALS. Two were cleaners who were promoted to therapy aides; biographical essays they wrote are quoted below. One transferred to another installation and three stopped coming before completing the program.

The PALS lab

The Wassaic lab is in a small room with tables along the right and left walls and a passage down the middle. A round table was wedged into a corner with the library books displayed upon it. On that same wall were the four IBM PS/2 workstations with the two printers they shared. Along the opposite wall, with more elbow room to allow for shared experience were the two InfoWindow systems. The typewriter stations had to be set up in another room. During the observation, we were able to speak with students in both classes. All students observed were working on the PS/2 25s on what Ms McClinton identified as "Advanced PALS" materials. These materials had been provided to the teachers at the training sessions. This interactive instruction, provided on disk, was copyright WICAT, 1987, and made no mention of either PALS or Martin. The two programs that were most in demand were Reading for Information and Math Practice. At other times, students also requested to work with the primary editor and spell checker, a simple word-processing system for use on the IBM PS/2 25s that is part of the PALS package. None of the participating students was currently working on the videodisk portion of PALS. Ms. McClinton noted that students using "Basic PALS" at the InfoWindowsystems needed a "one on one" situation with a tutor or teacher. She observed that the system does not monitor the student's oral responses. Although typed phonemic spelling is initially accepted as correct and then proper spelling is provided for the student, without constant human mentoring, the learning experience is questionable.

Partners

The students observed were all working independently. I asked Ms. McClinton whether she had encouraged the partner situation prescribed by PALS. She reported that it sounds like a good idea as described in the training sessions but it doesn't work in the real world of CSEA workers. First, partners can seldom get away from work at the same time. Second, in the first year when several effective partnerships were established, as soon as one partner stopped coming, the other did also. She also explained that "classes" are really paper organizations. Each student is a "class" unto himself and, although efforts are made to attend at the prescribed time, students come to the PALS labs when their workloads make it possible.

Interview with students

I spoke to seven students in two classes individually and inquired about their reactions toward the hardware. Students expressed positive opinions about all parts of the lab. There was minimal interaction evident among the students as they worked side by side.

PALS in print

Ms. McClinton shared with us two short descriptive articles she had prepared for local newspapers. Following are several excerpts, the first written by Ms. McClinton and the next two by the two students who were graduated (completed 100 hours of attendance): "Through the perseverance and dedication of the students and the efforts of Project REACH, two employees have, by completing the program, increased their reading levels by 2.2

grades! In addition to reaching new grade levels, employees are setting new objectives and reaching them." "The PALS program is a good program, it has been very educational to me. It has helped me to spell better and to develop good reading habits. It encourages you to better yourself and to make goals for yourself. The program is so interesting you want to get your work done as soon as you can so you can go to the class. In the Advanced PALS, "Reading for Information" is the program I enjoy most. It helps you to understand what you are reading by answering questions about the story. I like working with the computers because you can go as fast as you want to go. Also, you feel like you are teaching yourself. When I finish the program and maybe earlier I am going to take the Therapy Aide test again. I recommended this program to several others and they signed up and were glad. More people should join the program. They should not be ashamed and will profit with the knowledge even if they can already read, write and spell. I am glad I came to the program, after taking the test again I have improved my reading comprehension over two grades and I can understand what I read better now." "I think the program is very good. It really helped me a lot, especially in comprehension. I came to the program because I could read but I couldn't understand what I am reading all the time. The one thing I like about the program is that you work with computers and you can go at your own speed and if you need help you can go back when ever you want to. I only wished that there was more time to come to the program than an hour, this would help people progress more. Some people are ashamed to come but if they would come they would see that it is helpful and they would be gaining instead of losing. Before I came to the program I took the Therapy Aide test a couple of times but did not pass it after going to the program I took the test and I passed the test and will be starting a new job soon as a therapy aide. I feel really good about the program and proud of myself."

The teacher

Ms. McClinton really runs a one-person shop. She told us that there had been more people on the education staff before layoffs that had occurred in November 1988 but that now each person had to be teacher, administrator and clerk for the program he or she is conducting. She reported that both the initial training in Syracuse and the update in the Hudson Valley were well conducted and useful training sessions. She particularly enjoyed sharing experiences with other PALS mentors and receiving the "Advanced PALS" materials at the update session.

Wish list

I asked Ms. McClinton whether there were any additional statements she would care to make. Without wavering, she said, "I would like more Advanced PALS materials and please,no more phonemes." She and the students were pleased with the entire package and would not consider parting with any component of either hardware or software. She added that additional teaching staff could make the lab available for a greater number of hours per week and would also make the videodisk part of PALS a more meaningful learning experience.

Creedmoor Psychiatric Center

On March 2, 1989, Dr. Alan Gross, Ruth Hernstadt, his research assistant, and I visited Creedmoor Psychiatric Center in the borough of Queens in New York City. As we approached Creedmoor, we were struck by this huge, faded orange building with bars on all the windows that loomed before us. However,the PALS lab, in operation since February 1988, is housed in a much smaller building at the rear of the complex in a spacious, well-lit, sunny room called the "Computer ReadingRoom". Marilyn Gelfand, who is employed part-time, is the person in charge of the PALS program; Stefan Larkin is the Director of Education.

The PALS lab

At Creedmoor, the lab is called the "Computer Reading Room". Students are attracted by the high tech equipment but feel that "PALS" is a demeaning or childlike term and have all opted to use the more adult appellation. The room is a good size for the half lab and is bright and sunny. TheInfoWindow systems are back to back near the window wall so that each screen is at right angles to the windows. The two clusters of two IBM PS2/25s are back to back also so that all wires are out of the way. The typing stations are side by side and the round table is near the window wall. The teacher station faces the door so that it is easy to log students in and to greet them as they enter the lab. The wall facing the door is lined with bookshelves (not part of the PALS design). These shelves hold videotapes,computer manuals, computer software, popular literature and PALS materials. Most of the shelves are bare. The atmosphere is professional and attractive; it is an inviting place to come and extend one's knowledge and skills. The initial library sent in February 1988 was small and has never been expanded or changed. The staff has supplemented the reading material with popular magazines and voluntary contributions.

The students

Students are scheduled for morning or afternoon session but, according to Ms. Gelfand, participation in PALS cannot be thought of in terms of either "semesters" or "classes". A student earns a certificate upon completion of 100 hours of work in the lab. The students, members of the CSEA, are currently employed in housekeeping, groundskeeping, maintenance, laundry, and food service. Some of the more functionally literate are MHTAs. The number of hours a student may participate in the program is a function of the supervisor who must grant release time. Student participation ranges from two, two hour sessions to one, one hour session weekly. At the present time, there are several students who attend regularly who are working toward their second hundred hours of participation. These students are using the"Advanced PALS" materials and other materials that Ms. Gelfand and Mr. Larkin have secured.

Interviews with students

I approached the four students who came to the lab during our visit. All were friendly but businesslike and encouraged me to watch them at work. However, none was eager to enter into a discussion and, aside from basic pleasantries and enthusiasm for the total package of experiences, turned back to the work at hand. Their time in the lab was precious and time spent in conversation was a loss of instructional time. Two of the four students were recent immigrants and conversational English was difficult for them.

Partners

This observer has concluded that the term "partners" immediately puts the education staffs on the defensive. This lab, like all the others, started every participant with assigned partners. However, the nature of the work situation and the difficulties imposed by the different supervisors made partner activity unfeasible. Ms. Gelfand made it very clear, however, that there is a secure, cooperative learning environment and students consistently work with and assist one another.

Pre- and post-testing

Ms. Gelfand provided information on the TABE tests that are used for pre- and post-testing of students. First, she maintained that people do not like taking tests and, although there were no data to back up her assertion, many prospective PALS students ostensibly did not begin the program because they were reluctant to take the paper and pencil test. Apparently, they felt that a poor showing might jeopardize their current jobs.

Phonemes

In the second half of the videodisk presentations, work is done with sounds of the English language. A large mouth appears on the bottom of the screen; the letters that comprise the sound are printed on the screen and the voice makes the sound. The student is supposed to repeat the sound although the system has no way of evaluating the correctness of the student response. In this lab, students work in pairs at this part of the experience and help one another match the "correctness" of the spoken sounds. These pairs are formed on an ad-hoc basis with whomever is available at the time. According to Ms. Gelfand, this feature is the most useful part of the videodisk presentation, particularly since most of the Creedmoor students are adults for whom English is a second language. When asked about phonemic writing, Ms. Gelfand maintained that it is the position of the education staff to discourage phonemic writing for adult students since it doesn't conform to standard English.

The teachers

Ms. Gelfand reported that both the initial teacher seminar in Syracuse, New York, and the update seminar conducted at the beginning of the second year in Dutchess County, New York, were well organized experiences that proved helpful in the execution of the program. It is very gratifying to see how inventive teachers can be to maximize technology to assist in the learning process. One student, who is in his second hundred hours, was transcribing material from a magnetic tape. He was wearing a set of earphones from the InfoWindow system that were attached to a tape recorder from the typing system; the tape came from an unidentified source.

Wish list

At the end of the interview, we asked Ms. Gelfand and Mr. Larkin what could be done to improve the level of service being provided for the students. Just as in all earlier interviews, the teachers were fast to respond. Ms. Gelfand cited the need for more "Advanced PALS" materials, specifically, additional materials that involved reading comprehension. She also reiterated the request for more library books geared to the interest level of adults. (Many of the workers at Creedmoor are literate in a language other than English and were not enthusiastic about the comic book format of the videodisk presentations.) Mr. Larkin identified a need for an IBM PS2/50 that could be used as a host for a local area network upon which he would load a large variety of adult-directed, computer-assisted instruction (CAI) materials that could simply be called up by each student at will. He also noted that, at the present time, the education department is seven people understaffed and that this personnel shortage seriously impairs the delivery of instruction to employees

Conclusion

Although only two PALS labs were visited by this observer during each of the first two years of the program, it is easy to discern certain patterns in operation. During the first year, the newness of the technology, the manipulation of the various devices and the pacing of this program described as a self-contained learning package kept the teachers on track and did not allow for creativity. An appropriate descriptive statement of the philosophy of use might be, "We are using this package as prescribed and are tentatively very enthusiastic about it." The hardware technology is superb and before long both students and teachers accepted its presence without question. The philosophy of use changed in the second year to be, "We are experimenting with reconfiguring this package to obtain maximum learning benefits for our students.". In year one, this observer reported that students preferred the typewriter to the IBM PS/2 25s for essay writing because the immediacy of the print on paper made the work appear more "theirs". In year two, this attitude seems to have been changed to a preference for a system in which editing is so much more easily accomplished. Ms. Gelfand reported that the typewriter is used for touch typing drills but actual student writing is done on the PS2/25s using the Primary Editor. The Primary Editor is a very simple wordprocessor that allows movement within a documents and simple additions and deletions to be made to text. It is significant to note that this Primary Editor was created for the Write to Read Program designed by IBM and Martin for use in elementary education settings. The manual that accompanies the Primary Editor states, "This option lets children create new stories and save them on the story diskette. These are the keys the child uses...". Although no one rejected or criticized PALS on InfoWindows, several facts were evident. First, we did not see any use of the InfoWindow systems although each student worked on an individual schedule. Second, requests were made for more computer-assisted instruction materials, not more PALS videodisks. This should not be taken as a reflection of the value of the hardware technology. It is a clear statement about the wants and needs of responsible adults, gainfully employed in the workforce who are basic education students. The material presented in the InfoWindow system may simply be too childish for an adult population.

References

Gross, A., Lee, M. and Zuss, M. (1988). Project REACH final evaluation report. NY: Center for Advanced Study in Education. The Graduate School and University Center of The City University of New York.

Martin, J. H. (1986). IBM InfoCourse: principles of the alphabet literacy system. Teacher's Manual GA: JHM Corp and IBM.

The key points stated by Dr. Abramson in her report can be summarized as follows:

* The PALS labs are properly equipped and functioning in accord with the specifications for the program.

* The students consider the PALS Program to a useful educational experience.

* The PALS coordinators are well trained professionals who are committed to improving the basic skills levels of the students.

- The pattern of use of the PALS system has clearly changed during the second year of the program. These changes can be summarized as showing much more flexibility and innovation in the use of the PALS hardware and software. Examples of these changes was the lessened use of the typewriter and the increased use of the word processing system (Primary Editor), the lessened use of the InfoWindow system, students working individually rather then with partners, and the increased use and desire for more advanced computer-assisted instructional materials of the type that are available in the Advanced PALS materials.

4.3 Data Analysis

The total data base for the PALS program was obtained from N = 192 students who participated in the program during the first or second year. Data were obtained for the following variables: General background data (gender, educational level, whether English was the primary language, participation in Regular or Advanced PALS), pre and post scores on the TABE test (scored in terms of grade levels), pre and post scores for the SKILLS Profile (scored in terms of the Writing, Reading, and Confidence Scales; see section 3.2.2 for a description of these scales), and pre and post scores on the Sample Job Application Form (SJAF). Section 4.3.1 presents a description of the background data while Section 4.3.2 presents the statistical analysis of the post-pre gains.

4.3.1 The General Background Data.

Table 4 contains frequency distributions for the following variables: sex, English as the primary language, educational level, type of program (regular or advanced PALS), and pre and post means and standard deviations for the number of hours per week of reading, writing, TV viewing, and participation in the program. These latter four variables were obtained from questions 37-40 of the SKILLS Profile.

Table 4 Background Data

	% Male	% Female
SEX (N=161)	37.9	62.1

	% Yes	% No
English Primary Language (N=157)	59.4	40.6

	Grade	Frequency	Percent
Educational Level (N=151)	0	1	0.7
	3	7	4.6
	4	1	0.7
	5	4	2.6
	6	5	3.3
	7	10	6.6
	8	17	11.3
	9	15	9.9
	10	19	12.6
	11	12	7.9
	12	57	37.7
	14	2	1.3
	16	1	0.7

	% Regular PALS	% Advanced PALS
Type of Program (N=188)	84.0	16.0

	PRE		POST	
Variable	Mean	SD	Mean	SD
Hrs Reading/wk	5.8	7.8	7.0	9.0
Hrs Writing/wk	4.9	9.3	6.4	7.8
Hrs TV/wk	11.6	11.3	11.6	10.7
Hrs in Program/wk	4.9	1.8	4.6	1.2

The results presented in Table 4 show the following:

English is not the primary language for 41 percent of the students

The majority of students are female

The relatively high median educational level of approximately the tenth grade reflects the fact that the distribution is skewed to the right with nearly 40 percent of the students having an educational level at or above the 12th grade level. It is interesting to note that of this latter group, nearly 50 percent do not have English as their primary language.

Eighty-four percent of the students were formally enrolled in the Regular PALS program while 16 per cent were enrolled in Advanced PALS.

The average number of hours of reading, writing, TV viewing, and participation in the program on a weekly basis were reported pre and post as follows: 5.8-7.0, 4.9-6.4, 11.6-11.6, and 4.9 to 4.0 respectively.

4.3.2 The Analysis of the Post-Pre Score Gains for the TABE, SKILLS and Sample Job Application Measures.

Primary interest was focused on the analysis of the post-pre score gains for the TABE test, the three constructed scales of the SKILLS Profile (Writing, Reading, and Confidence), and the Sample Job Application Form (SJAF). The intervening time period between the pre and post testings was on average approximately six months. Unfortunately, the occurrence of missing data on both the pre and post measures did not allow for a direct investigation of the gains using standard statistical methods. For the TABE test and the three scales of the SKILLS Profile the missing data pattern consisted of missing pre or post scores, with a relatively small number of students being measured on both variables. The Sample Job Application Form presented an even more troublesome missing data pattern since the data base consisted of students who had either pre or post scores with no students measured both pre and post. We first describe the statistical analysis of the TABE and SKILLS data and then present the analysis of the SJAF data.

The analysis of the TABE and SKILLS data employed the same methods that were used in the analysis of the Tutor-Tutee data set (see section 3.3.2 for a complete description and rationale). Three different analyses were performed and are presented in Table 5. The first analysis is purely descriptive and presents the sample size (N) mean (M) and standard deviation (Std) for all of the available data. This analysis is found in section A of Table 5 . An inspection of the differences in the sample sizes for the pre and post measures shows the extent of the missing data. For example, for the TABE test, Npre=131 students were intially tested, but only Npost = 46 subjects were tested on the post-test measure. Section B of Table 5 contains the analysis of the data only for those subjects having complete pre and post score measures. This analysis is somewhat unrealistic since it is strongly based on the assumption that the missing data are missing completely at random. The third analysis (Section C) provides the most realistic information concerning post-pre score gains. In this analysis the missing data are not assumed to be missing in a completely random fashion, but possibly missing in a non-random fashion as a function of the observed data. This analysis was performed using the BMDP statistical package and was based on all available data for the following variables: educational level, pre and post TABE scores, and pre and post SKILLS scale scores.

Table 5 Post-pre test analysis for the TABE and SKILLS scales.

A. Descriptive Analysis

	Pre			Post		
Variable	N	M	Std	N	M	Std
TABE	131	3.7	1.9	46	4.5	2.0
SKILLS-WRITE (S-WRITE)	64	3.8	2.5	32	4.5	2.3
SKILLS-READ (S-READ)	63	11.5	2.9	32	12.0	3.3
SKILLS-CONF. (S-CONF)	61	5.3	1.4	34	5.3	1.4

B. Analyses Based on Complete Pre and Post Data

	Pre			Post			
Variable	N	M	Std	M	Std	Avg Gain	t-value
TABE	41	3.5	1.7	4.5	2.1	.97	4.48 p<.01
S-WRITE	12	3.7	2.1	4.0	2.1	.33	.94 ns
S-READ	12	11.5	2.1	11.7	3.6	.17	.30 ns
S-CONF	11	4.9	1.3	5.2	1.7	.27	.67 ns

C. Analyses Based on an Adjustment for Non-Randomly Missing Data

	Pre		Post			
Variable	M	Std	M	Std	Avg Gain	t-value
TABE	3.7	1.9	4.7	2.1	.91	4.16 p<.01
S-WRITE	4.1	2.5	4.8	2.3	.67	1.33 ns
S-READ	11.7	3.0	12.4	3.6	.63	.89 ns
S-CONF	5.4	1.4	5.4	1.5	-.01	-.02 ns

The results shown in Table 5 can be summarized as follows:

> An inspection of the descriptive results in Section A shows that there was a considerable amount of missing data.
>
> An inspection of the gains reported in Section C shows that although there were positive gains for the Writing and Reading Scales of the SKILLS Profile, these gains were not significant.
>
> The post-pre score average gain for the TABE test was nearly an entire grade level and was significant beyond the .01 level.

As previously noted, the analysis of gains for the Sample Job Application Form was complicated by the fact that there were no paired pre and post test data available; the N = 21 pre scores and the N= 23 post scores were obtained from different students. Thus, the post-pre score differences cannot be analyzed using the same missing data methods used in the previous analysis of the TABE and SKILLS measures. If one were willing to assume that the missing data were missing completely at random, the mean pre score for the N =21 students could simply be compared to the mean post score for the N = 23 students. However, it is more realistic to assume that the missing data are not missing completely at random, but are missing as a function of certain background variables. For example, the average educational level of students for whom pre scores were measured may be different than the mean educational level for students for whom pre scores were not measured. Thus, there may be systematic differences between the observed and missing SJAF scores due to differences on these background variables. The proposed analysis compares the pre and post SJAF scores after making a statistical adjustment for the difference in the background variable between the pre and post groups. Since the variable of educational level was measured on 151 of the 192 students, this measure was taken to be the background variable of interest. For the present data set, there were not large differences in educational level between the two groups; the average educational level for the students measured on the pre SJAF was 9.58 while the corresponding average for the students having post SJAF scores was 9.48. However, the adjustment may still be useful since the inclusion of the educational level data effectively increases the sample size with a resulting decrease in the standard errors of the means and an increase the sensitivity of the analysis of gain.

The analysis was performed using a data set consisting of the following three variables: educational level, pre SJAF, and post SJAF. The data set can be represented schematically as follows:

	educational level	pre SJAF	post SJAF
Group 1	*	*	
	*	*	
	*	*	
Group 2	*		*
	*		*
	*		*
Group 3	*		
	*		
	*		

The asterisks denote the presence of data. Thus, the data set can be broken down into three groups; group1 (educational level and pre SJAF measured), group2 (educational level and post SJAF measured), and group3 (only educational level measured). Using this data set one can obtain estimates of the means for the pre and post SJAF scores as well as estimates of the standard errors of these means. These statistics can in turn be used to construct a statistical test of the post-pre score gains on the SJAF measure. The analysis basically consists of four steps:

(1) Estimate the mean (MEL) and standard deviation (StdEL) for the educational level variable using all of the educational level data in groups 1-3;

(2) Using the group 1 data (paired educational level and pre SJAF scores), construct a regression equation predicting pre SJAF scores from educational level scores: pre SJAF = a + b(educational level). If the overall mean educational level (MEL) is substituted into the regression equation, an estimate of the mean pre SJAF score (adjusted for educational level differences) is obtained. Further, using the educational level data for all subjects, and the data in group 1, one can estimate the adjusted standard deviation for the pre SJAF scores.

(3) A similar analysis is performed using the Group2 data. This analysis provides adjusted estimates of the post SJAF mean and standard deviation.

(4) Using maximum likelihood methods (Little & Rubin, 1987) one can estimate the standard errors of the two adjusted means. The adjusted means and the standard errors can be used to construct a z-test on the

significance of the post - pre score gain on the SJAF measure.

The results of this analysis are presented in Table 6. In interpreting these results it should again be noted that the possible range of scores for the SJAF was from 0 to 31.

Table 6. An analysis of the post-pre score gains on the Sample Job Application Form

The Observed Data

Pre N	Pre Mean	Pre Std	Post N	Post Mean	Post Std
21	20.4	8.4	23	21.9	6.1

Adjusting for educational level

Pre Mean	Pre Std	Post Mean	Post Std	Gain	t-value
20.2	1.95	22.1	1.18	1.89	.83 ns

The results in Table 6 can be summarized as follows:

> An inspection of the observed data shows that there was a small gain on the SJAF measure from a pre mean of 20.4 to a post mean of 21.9.
>
> After adjusting for the educational level variable, the mean pre score was estimated to be 20.2 with a standard error (SDE) of 1.95. The corresponding mean and standard error for the post SJAF measure were 22.1 and 1.18 respectively. The average gain of 1.89 units, was not significant.

4.4 Anecdotal Data

Reports from PALS sites describing student accomplishments offer a view of the progress made by students upon completing approximately 100 hours of the PALS program. The following statements were recorded about individual students at one of the PALS sites:

> Has the desire and drive to continue in another PALS class.
>
> Read some basic books and did book reports on them.
>
> Typing skills were excellent and she was able to write some sentences with better spelling skills.

Reading skills improved and her typing skills became very proficient.

Student motivated to continue education by her improved reading.

Has the incentive to apply for a better paying job.

More confidence in her reading and writing ability.

Attitude was terrific and became excited about reading at home.

Student started to write much better and became very proficient at typing.

The student is now involved in the Advanced PALS Program.

Greater initiative to learn. Better understanding of the English language.

Student improved reading and writing skills.

Although qualitative in nature, these comments certainly support the conclusion of a positive impact for the PALS Program.

4.5 Summary and Findings (PALS Program)

The PALS program was evaluated in terms of direct observations of two PALS labs (Wassaic Development Center and the Creedmore Psychiatric Center) and the collection of pre and post-data with respect to reading level (TABE test), self reports of reading and writing skills (SKILLS Profile), and the Sample Job Application Form (a criterion or workplace referenced measure of literacy).

Direct Observations

Site visits were made by Evaluation Team members as well as by a specialist in the field of computer assisted instruction. These visits supported the conclusion that the laboratories were all functioning in accord with the specifications for the PALS program, and were having a positive impact on the reading and writing skills of the students. Several innovations have been introduced during the second year of the program. Many of the students appear to have a desire for and are benefitting from the use of the computer assisted instructional material which comprises the Advanced PALS Program.

Pre and Post Test Data

The statistical analysis of the post-pre score gains on the TABE test, the three scales of the SKILLS Profile, and the Sample Job Application Form was not straightforward due to the occurrence of missing data. However, using statistical techniques for dealing with non-randomly missing data, it was possible to analyze the gains. Although non-significant positive gains were found for the SKILLS scales and the SJAF, there was a significant average reading gain as measured by the TABE test of nearly one grade level.

5. People Reaching People (PRP): The use of vidiotapes to improve workplace literacy.

5.1 Overview

The People Reaching People program was developed by GOER to assist in the improvement of workplace literacy skills. It was particularly targeted for Mental Hygiene Therapy Aides (MHTA's) who are employed in New York State mental health facilities. The program has three basic elements: a series of videotapes which depict MHTA's performing various job tasks, a student workbook which provides questions with respect to the material contained in the videotapes, and an instructor's manual which suggests various approaches the instructor can use in discussing the videotape material and aiding students in completing their workbook assignments. The basic goal of the program is to strengthen the worker's job related reading and writing skills.

The original instructor's manual has been significantly modified and expanded since its inception during the first year of the program. Dr. Mildred Lee has prepared a critical review of the enhancements. This report is presented in section 5.2.

Plans exist for the eventual development of twenty PRP sites. At present, two sites are operational, Letchworth Village Developmental Center, and Newark Development Center. The data contained in the present report were gathered from the Letchworth Village site. This site was visited and observed by both Dr. Alan Gross and Dr. Miriam Balmuth on April 4, 1989. The results of this visit are given in section 5.3. Further, data were obtained from N = 6 students at the Letchworth Village site with respect to background information (gender, English as the primary language and educational level), and pre and post scores on the TABE test and the three scales of the SKILLS Profile. Section 5.4 contains a descriptive statistical analysis of these data. In section 5.5, a summary of the evaluation is given.

5.2 The Enhancements to the Instructor's Manual

REVIEW OF PROGRAM ENHANCEMENT FOR "PEOPLE REACHING PEOPLE", PROJECT REACH

Dr. Mildred Lee.

I. BACKGROUND

In May 1988, a committee consisting of eight CASE staff members reviewed six videotapes, a student's workbook, and an instructor's manual developed by Project REACH titled "People Reaching People." The purpose of this CASE review was to determine the potential effectiveness of these Project REACH initiatives in improving workplace literacy skills of CSEA employees in statewide OMRDD facilities.

The purpose of this review is to compare two versions - an earlier publication with a later document - of the Instructor's Manual to assess the value of "enhancements" prepared by Project REACH following CASE's Final Evaluation Report for 1988.

Based on current review of Project REACH's videotaped learning approach to upgrading literacy skills for selected CSEA employees in OMRDD workplaces, comparisons will be made between original and revised materials for instructors, conclusions will be drawn about potential effectiveness of these revisions, and recommendations will be made which refer to all three aspects/segments (videotapes, instructor's manual, student's workbook) of this teaching system.

II. MAJOR ISSUES AND CONCERNS

In their May 1988 review of the six videotapes, the CASE committee gave high marks to the audiovisual effort for its ability to describe and clarify on-the-job duties and attitudes of Mental Health Therapy Aides (MHTAs and Community Resident Aides (CRAs), and to focus on the need for team work with other health care personnel. Questions were raised, however, about the overall effectiveness of these videotapes as motivators and facilitators for MHTAs and CRAs to improve job-task related literacy skills, such as reading, writing, recordkeeping, vocabulary, map reading, and bookkeeping/inventory skills.

The most serious and specific issue, which arose unanimously about the Instructor's Manual, and to a lesser degree about the Student's Workbook, questioned the program's ability to assist CSEA mental health workers in improving their reading skills. A breakdown of this concern into separate items yielded the following statements about what needed to be done:

In order to assist students with their reading skills, the program should:

1. utilize the services of trained reading specialists as curriculum writers;

2. provide ongoing staff development, training, and supervision of instructors in the area of reading instruction;

3. develop a teacher's/instructor's manual with linkages to and specific instructions for use with the six videotapes;

4. clarify the relationship of the Instructor's Manual to the teaching of reading;

5. insure the presence of well-trained teachers as mediators, discussants, and instructors when students view the videotapes;

6. include additional relevant reading materials in the Student's Workbook, and

7. examine the Student's Workbook for appropriateness of reading level and workplace relevance of vocabulary to the target audience.

III. CRITIQUE

A. Instructor's Manual

A1. Original Manual

The original Instructor's Manual consisted of a three page description with an overview, notes on class structure, a workbook introduction, and some teaching suggestions. This original manual was divided into the following components:

1. Student Screening Device:Administration of TABE (Test of Adult Basic Education);

2. Evaluation Tool:Administration of Skills Profile (Pre- and Post-Test);

3. Instructor's Guidelines for Workbook and Videotapes;

4. Answer Key for Workbook, and

5. Sample Workbook.

Components 1, 2, and 4 of this earlier version were informational, prescriptive, and adequate for the required purposes of test administration, grading, and evaluation. Component 5 presented the Student Workbook, which will be discussed in B of this section. The former component 3 was deemed inadequate largely because of:

> excessive brevity of instructors' guidelines, particularly in terms of teaching suggestions;
>
> absence of linkages between videotapes and manual, and of lack of clarity about the relationship of the instructor's manual to the teaching of reading.

For example, teaching suggestions offered comprised single, open-ended paragraphs, which gave instructors great latitude for development of a lesson. While this might be appropriate and challenging for trained and well-supervised instructors with educational backgrounds and experience as reading specialists, it seemed inappropriate for volunteer teachers with diverse training and expertise in fields other than reading. In addition, the inherent flexibility of the manual's instructions would be likely to mitigate against a consistent delivery system related to workplace literacy, basic skills methodology, vocabulary building, and reading comprehension, for example.

A2. The Revised Manual

The revised Instructor's Manual is divided into the same five components as the original, with identical sections 1, 2, and 4. It begins, however, with an impressive title page with the Project REACH logo, which depicts the collaborative relationships associated with the program.

Component 3 of the "enhancement" has undergone major additions, modifications, and adaptations, reflecting dramatic changes in terms of expanded coverage given to instructors guidelines. This component now begins with a title page, repeating the REACH logo, which credits academic authorship as follows:

These guidelines were developed by
Empire State College
State University of New York
Office of Continuing Education & Public Service
Wallace Altes, Senior Training Associate
Hugh B. Hammett, Dean.

Pages 1 through 4, which replace less than two pages of original material, provide clear information in the form of program overview, participant eligibility, classroom structure, and suggested teaching strategies. The section on "teaching strategies," beginning on the bottom of page 2, is a thorough exposition offering suggestions to instructors to individualize their class presentations, in accord with students' needs, while following pedagogically sound ideas for "integrating and coordinating" the program's learning resources. Emphasis is placed on maximum class participation, rather than on a lecture modality.

Pages 5 through 27 present a series of well-developed lesson plans (one to accompany each videotape), which are detailed, comprehensive, and focused on videotape subject matter. In each lesson plan, instructors are given a structure to follow which relates the videotaped sequences to the classroom learning environment. In addition, "discussion starters," both cognitive and affective, provide instructors with linkage between the manual's content and affective learnings evoked as students recall life experiences requiring sensitive and confidential handling. Further, instructors are given valuable tips on lesson preparation, beginning with manual reading and videotape previewing.

The material presented in this revised manual is a vast improvement over that developed for the original document. It is clear that a major effort has been made to respond to the criticisms mentioned in the 1988 Final Report. For example, the earlier version was criticized for "excessive brevity...particularly in terms of teaching strategies" and "absence of linkages between the videotapes and the manual." On both of these counts, the revised document is superior to the original. Ample numbers of practical teaching strategies are offered to guide the average instructor, while providing opportunities for creative, above-average teachers to develop additional and innovative ideas. Moreover, each lesson plan is coordinated with its respective videotape, thereby supplying needed relevance, linkage, and specificity.

The third criticism, applied to the earlier version of the Instructor's Manual, still remains as a concern, although to a lesser degree. The original document was faulted because there was no clear relationship drawn between the contents of the Instructor's Manual and the methodology of teaching workplace literacy, particularly reading skills.

This "enhanced" form of the Instructor's Manual discusses teacher input which reinforces the reading skills curriculum, includes it for student exploration, and refers to practice in word study, vocabulary building, newspaper article analysis, paragraph writing, and sentence structure as integral parts of several lessons. Examples of such integrations are to be found on pages 5, 8, 18, and 23. There is, however, no concerted or sustained approach to improving workplace literacy through a systematic and organized reading program.

It is apparent that great emphasis is placed on the development and improvement of students' job-performance skills, sensitivity to client needs, and cooperation with other health-care providers. This focus matches the ideal modeled in the videotaped sequences. On the other hand, instructors are not mandated to devote time during each and every lesson to assisting students to improve their reading skills. No mention is made in instructors' lesson plans of strategies such as reading aloud, using phonics in word attack pronunciations, vocabulary building using the dictionary or thesaurus (in addition to the manual's glossary), keeping logs of new words, testing reading comprehension, practicing spelling, and encouraging regular outside reading on a consistent and daily basis.

The Overview set forth as Instructor's Guidelines (page 1) of "People Reaching People" states that:

> "Project REACH (Reading, Education and Achievement) is a reading skills improvement program sponsored by the State of New York and the Civil Service Employees Association, Inc. for state employees who are low level readers. One part of Project REACH is the use of six videos and a workbook to teach basic skills..."

Since the focal point of REACH is "reading skills improvement" and the video/workbook approach is another method to obtain this program objective, additional work must be done with the Instructor's Manual to give teachers more assistance in their lesson plans with relevant, practical, and regular exercises and activities which help students build and enhance their basic skills, particularly in reading.

B. Student's Workbook

No changes have been made in the Student's Workbook, although the 1988 Final Report indicated that there were needs:

> to include additional relevant reading materials;
>
> to examine reading level for appropriateness to the target population (e.g. program eligibility based on TABE score of 6.9 or lower), and
>
> to review vocabulary based on relevance to students' workplaces.

On the whole, the Student's Workbook, arranged in order of the videotaped presentations, contains many excellent references to the improvement of basic skills, particularly in reading. For example, the list below enumerates pages in the Student's Workbook which are commendable for the emphasis, clarity, specificity, and positive reinforcement provided by recommended exercises:

Page No.	Videotape Topic	Nature of Exercise	Major Reading/Basic Skills Category
6	Team Participation	vocabulary building	reading, comprehension, word usage, glossary use
7	" "	written communication	reading, letter writing, comprehension, spelling
8	" "	technical terms	listing new words, obtaining definitions (classmates/teacher)
10	Safe, Clean environment	label reading	reading, comprehension, writing responses to questions
11	" "	acronyms	reading, comprehension, acronym recall
12	" "	map reading	reading, directional comprehension
14	" "	word study	reading, comprehension, sentence completion
16	" "	composition	comprehension, written communication, paragraph writing of job description
20	Daily Living	students' experiences	vocabulary building, composition, writing (full page)
22	Client Health	crossword puzzle	word study, vocabulary building, comprehension, synonyms
23	" "	thermometer reading	reading, comprehension, computation
26	" "	observations	reading, comprehension, recording facts
28	" "	main ideas	reading comprehension
29	Leisure & Recreation	special events	reading newspapers, comprehension, written responses to questions
30	" "	activities	composition organization outline, composition writing

Page No.	Videotape Topic	Nature of Exercise	Major Reading/Basic Skills Category
31	Leisure & Recreation	word roots	word study, spelling, prefix/suffix study
32	" "	movie time-tables	reading schedules, comprehension
34	" "	sentence study	sentence structure, sentence recognition
35	" "	vocabulary	vocabulary building, use of specific words in sentences, use of glossary for checking
37	Maintenance Operations	reading recipes	reading, comprehension, computation (measurement)
38	" "	words at work	vocabulary building, defining words, synonyms
39	" "	catalog buying	word comparisons, numerical analysis, computation, oral communication
40	" "	choosing the right word	grammar (subject, verb), sentence structure

Although the pages mentioned above highlight many aspects of the basic skills process, particularly those associated with reading, the entire workbook requires that students read, understand, and relate the content to the videotaped sequences by completing required assignments. It appears likely that students who read significantly below a TABE score of 6.9 would have difficulty reading and comprehending this workbook material, and would, therefore, benefit from a simplified version geared to a lower reading level. Since the workbook focuses almost entirely on technical content related to job performance, it might be advisable to add reading materials and assignments which transcend students' workplaces for the purpose of encouraging leisure time/recreational reading, daily newspaper reading, magazine subscribing, and acquisition of books.

Because MHTAs and CRAs spend a large part of each day in the presence of clients with whom they converse and interact, it would seem appropriate to have students practice responding to other than technical, health-care, and job-related situations. Role playing, reverse role playing, brainstorming, and simulations might be used to hone students' oral communication and interactive skills with clients. In this way, relevance of the workbook to the student's workplace would be increased.

IV. SUMMARY,CONCLUSIONS, AND RECOMMENDATIONS

The revised Instructor's Manual, when compared to the earlier document, is notably superior in that it presents valuable teaching strategies and lesson plans to accompany the six videotaped sequences. There is still need, however, to clarify the relationship of this Manual to the philosophy and principles of the teaching of reading. In addition, although the Manual refers to activities and exercises designed to improve workplace literacy, especially in reading, it lacks a concerted, sustained, mandated, and ongoing lesson-by-lesson approach to basic skills building.

On the other hand, the Student's Workbook contains copious exercises and activities devoted to improving workplace literacy and/or enhancing basic skills. It is recommended, therefore, that the Instructor's Manual concentrate more heavily on ways teachers can assist students to become more proficient readers. A closer meshing between manual and workbook teaching/learning resources would be instrumental in accomplishing this goal.

Because instructors may run the gamut from literacy and/or reading specialists to volunteers without expertise in these fields, it is recommended that a strong commitment be made to ongoing staff development and training, as well as to regular input and monitoring from trained supervisors.

As indicated in the 1988 Final Report, the Student's Workbook should be examined to determine whether its reading level is too high for program participants who test well below the 6.9 cutoff TABE score. Also, material should be added to the Student's Workbook which varies from the almost complete focus on technical and workplace vocabulary. Additions should be made to include leisure time and recreational reading of books and magazines, as well as daily newspaper reading to keep abreast of current events.

5.3 The Site Visit to the People Reaching People Progam at Letchworth Village

ON SITE EVALUATION OF

PEOPLE REACHING PEOPLE LITERACY PROGRAM

AT LETCHWORTH VILLAGE

Prepared by: Dr.Miriam Balmuth

The information for this report was gathered during a visit to Letchworth Village on April 4, 1989--specifically, the Reville building, where the program is housed.

During the visit, a class session of People Reaching People (PRP) was observed, including the showing of one of the video tapes that are an integral part of the program. Teacher and student follow-up of the tape was also observed. Interviews were held with the program coordinator, Ms. Marilyn Santiago; with the teacher, Ms. Maureen Parashkevov; and with one of the three students currently in the program. The student's workbook and other materials used in the program were examined subsequently.

On the day of the site visit, the program had been in existence long enough for one ten-week cycle (with six students) to have been completed. The third session of a second ten-week cycle (with three students) was in progress.

From the information gathered through the interviews, observation, and examination of materials, a number of conclusions and suggestions were derived. Those were based on the understanding that the program is designed for adults with serious literacy deficits, individuals who are academically needy but often embarassed about their needs.

At Letchworth Village, mental health therapy aides who are newly-hired are placed on one-year's probation, during which time they receive 200 hours of classroom training with a set curriculum focused on their particular job's requirements. Shortly after they are hired, the aides are given the Test of Adult Basic Education (TABE) to test their reading ability. According to the coordinator, the situation of recent years, in which very few new mental health therapy aides were being hired, has now changed. Larger numbers of aides are now coming on staff, many of them Haitian, with French/Creole as their mother tongue. Often, these new employees have language and literacy needs, some scoring as low as third grade reading level on the TABE. Their primary problem, however, according to the coordinator, is probably ESL, although the literacy need is there, too.

The aides themselves, on probation and presumably satisfied enough with their work to want to stay on after the probationary year, would surely be motivated to participate conscientiously in a program designed to help them keep their jobs.

At Letchworth Village, then, both institutional and individual needs for a successful program are in place, and PRP has been set up to meet those needs.

A. Administrative and Instructional Climate

The program is fortunate in having personnel who are experienced and knowledgeable about the workings of the institution. The coordinator, Ms. Santiago, who is also Coordinator of Staff Development and Training for all of Letchworth Village, has a background in nursing (R.N.) and a master's degree in Special Education. She is concerned and hard-working, with plans to track students who complete the People Reaching People program into a PALS computerized reading skills program housed in the computer lab already set up in the Reville building library.

The teacher, Ms. Parashkevov, who has taught other courses in the Letchworth Village Staff Development and Training sector, volunteered to teach in this program because she likes to try new things. Her enthusiasm and fine manner with the students is an asset. She is exemplary in the way she speaks to them during the class session-- using rich vocabulary and never talking down. During the session I observed, she made numerous connections between the topics under discussion and the students' jobs in a most useful way.

Evidence of the students' interest and motivation can be found in their attendance--far superior, it was said, to that of other courses taught at Letchworth. Students even come for make-up sessions when they have had to miss a scheduled one.

Coordination and consultation between Ms. Santiago and Ms. Parashkevov are frequent, informally as well as at lunch at least two times a week, so that the program and its progress is continually being monitored.

B. Site

The program is housed in a classroom on the ground floor of the Reville building, one of the many in the huge Letchworth Village complex. The classroom is which the sessions take place is excellently situated for ingress and egress--directly off the main entrance of the building. The students sit around large tables grouped together so they can write comfortably and yet face the teacher and each other. The television set on which the videotapes are played stands very conventiently at the teacher's right hand. Close by it is an easel with chart paper in lieu of a blackboard, for the teacher to write upon.

The age of the building and the lack of shiny new paint or decorative furnishings preclude a truly cheerful look, but the ceiling is high, the furniture is comfortable and appropriate in size, there is enough light, and certainly enough room for the three students in the class. A sizable blackboard or chalkboard, however, would be a useful addition.

C. Recruitment

Like the other programs on the staff development roster at Letchworth Village, the PRP program is voluntary. Efforts to alert potential students to those courses, including the PRP, have taken several forms. Thus, articles in an in-house publication; open-house social, informal gatherings every four to six months; and memos to residential unit (building) supervisors, of whom there are several hundred, have all been tried. In addition, specifically for PRP, the names of fifteen probational therapy aides, characterized as having scored below sixth grade on the required TABE test, were listed on a special memo circulated to the group of unit supervisors of those aides' particular buildings. These efforts have resulted in very small numbers of students--fewer in the second than in the first cycle (six and then three).

It might be useful to interview the twelve of the fifteen low-scoring therapy aides who did not enroll in order to find out why they did not do so. Information about how each was informed about the program and what specific factors in their personal situations or in their impressions of what the program entailed kept them from participating might be useful in planning future recruitment efforts.

D. Literacy Assessment

The use of a test like the TABE as a preliminary screening device for identifying potential students is a useful one, but should be perceived only as preliminary. It should be supplemented by an individual session to ascertain the specific reading strengths and needs of low scorers. Consultation with a reading specialist conversant with the special sensitivities of adult low-level readers might be necessary to plan such diagnostic sessions.

In addition, since the program includes focus on students' writing (and rightly so, since therapy aides are called upon to record vital anecdotal information about their clients), assessment of the writing ability of students entering the PRP is also advisable. No such information is currently available prior to the first class session. A procedure as clear-cut as the reading and writing of such anecdotal material as that found on

Page 9 of the Workbook should reveal any difficulties with on-the-job handwritten communications.

E. Schedule

The program is scheduled for one two-hour session every week for ten weeks. The original plan called for six-to-ten week cycles, with two sessions per week. The ten-week cycle was chosen so that the students would have more time within which to learn. The two sessions per week were cut to one because the therapy aides are key persons in the care of the clients, and often cannot be spared from their assignments. The current cycle is scheduled on Tuesdays, from 1:30 to 3:30, from March 21 through May 23.

It is recommended that because of the week-long gap between sessions, assigning some form of homework/review of the material studied durig each session would assist retention and speed the students' progress. Encouragement of any kind of outside reading and writing would also act as reinforcement of the literacy learning that takes place within each session.

F Instructional Program

There is some disparity between the stated goal of PRP and what is actually prescribed and used in the classroom. The Instructor's Guidelines (Page 1) states that the goal is "reading skills improvement . . . for state employees who are low-level readers" and the recruitment memo at Letchworth Village describes PRP as "a reading skills program. . . designed to teach reading skills in the context of job activities."

The instructional program rests on a set of three coordinated materials: six videotapes of on-the-job exemplary vignettes, a students' workbook, and a teacher's manual, titled Instructor's Guidelines. The tapes serve as introductory background for class discussion and student writing. While the workbook and manuals can stand on their own as instructional materials, the videotapes, according to the one I saw as well as to comments by program personnel, are useful primarily in conjunction with the other materials.

By adhering to these materials, the goal of using a context of job activities is definitely being met. Questions may be raised, however, about characterizing the PRP as a "reading skills program." In practice, the sessions are highly focused on students' own written work, which calls for a great deal of writing practice, and on oral discussion of work-related topics. Little time, opportunity or materials are allotted to reading practice or to cohesive student-needs-related reading instruction. The only reading materials prescribed in the program were brief written statements in the workbook. In the session I observed, these were either read aloud at sight by the students or read by the teacher as the students followed along.

It is possible that the practice in speaking and writing will transfer to the students' reading ability because it is the language rather than the written format that is the problem for these students. In any case, it should be made clear to all that the program includes much writing and oral language.

G. English as a Second Language

While low reading scores are apparent among the newly-hired therapy aides, spoken English limitations were said to be even more of a problem. Ways should be found to pinpoint specific English language needs and then either to incorporate appropriate, planned, ESL instruction into the program or to set up additional, solely ESL, programs.

H. Counseling Component

Adults with literacy problems often have concerns, both practical and attitudinal, about which they are reticent to initiate discussion. They may either avoid entering instructional programs or suffer real hardship or frustration that could be alleviated through private exchange with a sensitive advisor or counselor. At Letchworth Village, the PRP personnel are both sensitive and caring, but there is no provision for personal interviews during which any problems of the students might be elicited.

Thus, for example, at Letchworth Village, the distances between buildings pose a problem for at least one student, who usually comes to work in another person's car. Because the class session is scheduled in the middle of the day at a building far from the students' assigned unit, the student must pay twenty dollars each session (two-way taxi fare), a fact of which the program personnel were not aware. With opportunity to share individual concerns privately, this student's problem might be solved by some kind of funding or transportation arrangement.

Also needing to be addressed are student preconceptions about what the program offers. One student's goal was to receive help with grammar (especially with the past tense of verbs). This student had expected to find such help within the program and was neither receiving it nor seemed to have found a way to express the desire for it until an individual meeting was in progress. Such meetings might be set up at the start of a cycle as orientation, as well as during the cycle, to check on the student's reactions an new concerns.

I. Student Progress

According to the program personnel, there was a dramatic rise in reading scores when the students of the first cycle were post-tested on the TABE. From one-half to a full year increase in grade level was the reported result for five of the six students in that cycle. If students in subsequent cycles make such progress, and there is evidence of increased reading ability in general, the reading skills aspect of the PRP would be considered successful. Very careful control of the testing circumstances, both pre- and post-test, is essential, however, since such large gains in such a short time are unusual.

Another measure of program success would be the rate of retention as therapy aides at Letchworth Village after the probationary year is up. A very large retention rate was reported for the first six PRP students. It would be useful to compare the retention rates of those who scored below sixth grade on the TABE but did not choose to participate. A comparison with the retention rate of all probationary therapy aides would also be a useful measure of the program's success.

* * *

On the whole, the PRP at Letchworth Village has a valid mission, which should be communicated clearly to potential students. Now that the program has been set in place, moving even more closely toward individualizing instruction to meet students' specific needs and concerns is the next step. Program personnel are aware of this and have already started to make plans in that direction. The additional labor required by recruitment, follow-up, and individualization might call for additional personnel.

5.4 Data Analysis

Complete pre and post test data have been collected on N=6 students who have participated in the Letchworth Village program. These data consist of background information and pre and post scores on the TABE test and the three scales of the SKILLS Profile. The time interval between the administrations of the pre and post measures ranged from 55 to 69 days.

Table 7 contains the background data with respect to English as the primary language, gender, educational level, and pre and post means and standard deviations with respect to the weekly hours of reading, writing, TV viewing, and participation in the program.

Table 7. Biographical Data

	% Male	% Female
SEX	0.0	100.0

	% Yes	% No
English Primary Language	0.0	100.0

	Grade	Frequency	Percent
Education Level	12	5	100

	Pre		Post	
Variable	Mean	Std	Mean	Std
Hrs Reading/wk	8.5	7.2	9.2	5.8
Hrs Writing/wk	6.9	5.1	14.8	8.0
Hrs TV/wk	10.0	6.2	12.7	11.0
Hrs in Program/wk	2.0	0.0	2.2	0.4

An inspection of the background data show the following results:

* English is not the primary language for any of the participants.

* All of the participants are female.

* All of the participants have achieved a twelfth grade level of education.

- The following pre and post means were observed for weekly hours of reading, writing, TV viewing, and participation in the program: 8.5-9.2, 6.9-14.83, 10.0-12.7, and 2.0-2.2.

Table 8 shows the analysis of the pre and post TABE scores as well as the three scales of the SKILLS Profile.

Table 8. Analysis of Gains

	PRE			POST			
	N	Mean	SD	N	Mean	SD	Gain
TABE	6	4.1	1.1	6	4.6	1.2	.5
S-Write	6	6.2	1.2	2	8.5	0.7	2.3
S-Read	5	13.2	1.9	2	15.0	0.0	1.8
S-Conf	5	5.6	1.1	6	6.5	1.6	.9

A positive average gain of 1/2 grade level is seen for the TABE test in Table 8. Further, there are positive gains for all three of the SKILLS Scales. Due to the small sample size of N≤6 it is not possible to meaningfully test the statistical significance of the gain.

5.5 Summary of findings for the People Reaching People Program.

Three sources of information were available as part of the evaluation of the People Reaching People Program, pre and post scores on the TABE test and the three scales of the SKILLS Profile, the evaluation of the new teacher's manual, and the site visit to the program at Letchworth Village Development Center. The following results were observed:

> A mean gain of nearly half a grade level was observed for the TABE test. Further, positive gains were observed for all three scales of the SKILLS Profile. The small sample sizes (N≤6) did not allow for these results to be tested for statistical significance.
>
> Dr. Lee's evaluation of the new teacher's manual led to the following conclusions: (a) "The revised Instructor's Manual, when compared to the earlier document, is notably superior in that it presents valuable teaching strategies and lesson plans to accompany the six videotaped sequences." (b) "There is

still need, however, to clarify the relationship of this manual to the philosophy and principles of the teaching of reading." (c) "In addition, although the manual refers to activities and exercises designed to improve workplace literacy, especially in reading, it lacks a concerted, sustained, mandated, and ongoing lesson-by-lesson approach to basic skills building."

The following observations were noted in Dr. Balmuth's observational report of the PRP program at Letchworth Village: (a) The program is run in a professional manner and is staffed by well trained, dedicated, and motivated teachers and administrators. (b) All of the instructional materials are clearly job related. (c) tAlthough the program is advertised as a reading skills program, major emphasis is placed on the development of writing and speaking skills. (d) At present, students are pre tested only on a test of reading skill. In light of the emphasis on writing and speaking skills, it would be useful to screen students with respect to both of these skills. Some students would most likely benefit from an ESL program prior to or concurrently with the PRP program. (e) Since the class meets only once a week, homework assignments would provide a useful supplement to classroom instruction. (f) It is recommended that a counseling component be added to the program to aid students who have difficulties in adjusting to the program.

6. The English as a Second Language Program (ESL)

6.1 Overview

Several factors underlie the introduction of ESL programs as part of Project REACH. During the first year of the REACH program it was observed that a substantial number of students enrolled in the PALS program needed ESL training because they were not proficient speakers of English. Since the IBM Corporation had no firm plans for developing an ESL program as part of the PALS program, a search was undertaken by GOER to identify already existing ESL programs which could serve as possible models for the REACH program. Such a program was identified at SUNY Stony Brook. Initial plans called for the development of five ESL sites. At present two sites are operational, SUNY Stony Brook, and Pilgrim Psychiatric Center. These two sites are the focus of the present evaluation. However, plans call for the establishment of a new class at Letchworth Village, and two new classes in Albany within the very near future. In addition, there are plans to establish an additional seven to eight programs this year. It should be noted that the ESL classes are available to non-CSEA employees on a space available basis, i.e., when there are unfilled openings in the class.

Unlike the other three REACH programs, the ESL program is not directly funded by REACH, but rather by the Employment Preparation and Education Fund. However, REACH is still substantially involved in the ESL program since it provides the following important services: (a) the publicity needed for recruitment, (b) the administrative support needed for the establishment of the classes, e.g. arranging for the instructor and the classroom location, (c) the followup testing needed for the evaluation of the effectiveness of the program.

The ESL program at the Pilgrim Psychiatric Center was visited on January 25, 1989 by Dr. Alan L. Gross, and Ms. Teresa Castaldi, an ESL specialist. On March 23, 1989 a site visit was made by the same observers to the SUNY Stony Brook site. These two site visits are described in Section 6.2

In addition to the site visits, the evaluation plan called for the collection and analysis of biographical data, and complete pre-post data on the following measures:

SKILLS Profile

JOHN Test (a description of this measure is given in the site report , Section 6.2, under the heading, "testing of students").

Although relatively complete background data were obtained from the students at both sites, GOER has been unable to collect complete pre and post data on the JOHN Test and the SKILLS

Profile. Since the Stony Brook program began prior to this evaluation study, only post-test data were collected by GOER on the SKILLS Profile and the JOHN test. These data are based on a 14-16 week program. For the Pilgrim State program,(a 5-6 month program) only pre-test data have been collected on these two measures. Thus, there are no paired pre and post scores for any of the students. This data pattern was also encountered in the analysis of the Sample Job Application Form for the PALS program. As discussed in Section 4.3.2, an analysis of post-pre score gains simply in terms of a comparison of the Pilgrim State pre means and the Stony Brook post means, is likely to produce biased results due to systematic differences between the sites in terms of various background variables. As described in Section 4.3.2, a more accurate analysis first adjusts the pre and post means for these systematic differences and then tests the gains. This analysis was performed using the available pre and post scores and using educational level as the adjustment variable. This analysis is described in section 6.3.2. Section 6.3.1 presents a descriptive analysis of the background data. Section 6.4 contains a summary of the results.

6.2 Site Report (Prepared by Teresa Castaldi)

Observation of Pilgrim State ESL Program

The ESL class at Pilgrim State Psychiatric Center meets three times a week for two hours from 2:30 P.M to 4:30 P.M. and is conducted by a teacher and her assistant. Although 21 students were enrolled in the class, only 9 students (5 women and 4 men) were present during our observation. For the first hour of each class meeting, all participants receive release time from their jobs at the Center. The second hour is considered their own time. The classes typically consist of 5-6 months of instruction.

Physical Environment

The observed class meets three times a week in a large, many windowed day room in one of the buildings located on the hospital grounds. According to the teacher, this room is a vast improvement over the previous space allocated to them which, in addition to being much smaller with fewer windows, was located on an isolated corridor in another wing of the same building.

There were approximately 35 desks and chairs scattered throughout the sunny, open day room. There were also 4 square tables and one large rectangular one. In the middle of the room was a large, two sided, portable green chalk board. The students we observed made good use of all the available desks and tables. When we first walked in, several early arrivals were working by themselves at desks, whereas others had grouped themselves around one of the larger tables.

The Teachers

BOCES has appointed both a primary teacher and an assistant teacher for this particular class. The primary teacher is a licensed elementary school teacher who has received ESL instruction from BOCES. Her assistant has a B.A. in Languages with additional training in Literacy Reading Programs. Both the teacher and assistant teacher expressed a great deal of enthusiasm about the program and the students. Both believed their students were benefiting from the class.

The teacher informed us she frequently drew upon books recommended by BOCES for course material. All were current texts in the field including Bonner's On Your Way: Building Basic Skills in English (1988), Breyer's Grammar Work (1982), and Fisher and Dixson's Beginning Lessons in English (1983).

The Students

The class is composed of Indian and Hispanic immigrants with diverse skills whose ages range from the early twenties to the late fifties. The teacher informed us that most of the students were from the Psychiatric Center's Housekeeping Department although one student worked on the kitchen staff.

Informal discussions with the students confirmed what the teachers told us: These adult students were attending class in order to better themselves. Some had to pass specific tests given by the Psychiatric Center in order to receive pay increases; others were studying for their citizenship test and needed the English skills presented to them in class to pass the examination. The teacher often included discussions of U.S. history during her lesson to assist students in preparing for the citizenship exam. Although the skills they were learning in class had no direct bearing on the jobs they were presently involved in at the Psychiatric Center, all hoped that what they were learning would help them "get ahead."

Despite their enthusiasm and diligence, participation in the program was not easy for many of the students. For most of them, their work day the Psychiatric center began at 7:30 A.M. and ended at 3:30 P.M. The women we spoke to all had children waiting for them at home; one man held another job. If their supervisors were cooperative, they were granted one hour release time to attend class at 2:30. The second half of the class, from 3:30 to 4:30 was their own time. During our observation, only one student left the class at 3:30; the rest stayed until the second hour was over. We were informed by the teacher, however, that several students could not attend the first hour of the class because their supervisor would not allow them to leave early.

The Class Session

The teachers ran a structured, well thought out program which had several components: oral communication, grammar, pronunciation, and comprehension. On a typical day, the first half hour of the class is spent on individual work. We noted that several handouts on telling the time, date and temperature were neatly arranged on a table for the students to take when they entered the class.

Without much ado, incoming students would take a handout, sit down at a desk or a table and get to work. Although they were not totally silent, there was very little chit chat. It was apparent that the students were there to learn and not to socialize. Those individuals who sat at a table with others would quietly confer with their neighbors about their assignments. Meanwhile, the teacher and her assistant would walk around the room and work with each student individually. We were told before the class began that the students were very reluctant to hand in their dittos after the 30 minutes were up; they usually wanted more time. This proved to be true as several students groaned in mock despair when the teacher asked them to put their handouts aside and move in front of the chalkboard for a group lesson.

At this time, the focus switched to pronunciation of the long and short vowel "o." The teacher's procedure was as follows: She wrote words containing the vowel "o" on the chalkboard including cot, grocery, home, coat, store, soda and stove. The teacher would say a word which each student would repeat. If the students were confused about the meaning of a particular word, the teacher would ask the students to define it. Or the teacher would elicit information from the students by asking such questions as "what type of a grocery do you shop in, Maria?" AT one point, the teacher used a coat as a visual clue. She also listened carefully to each student's pronunciation of a word and would correct it if necessary. The assistant teacher would also interrupt and do the same. At the end of this 30 minute lesson, the class was asked to circle the word where the "o" sound appeared.

At the teacher's request, the students moved again and formed an informal circle on the other side of the chalk board. This lesson centered on the difference between "on" and "in" in regard to dates, days and months. The teacher asked the class to fill in the blanks in the following sentences:

Christmas is _______________ December 25th.
Thanksgiving is _________________ November.
Halloween is _______________ October.
New Year's Day is _______________ January 1st.
Election Day is _______________ the first Tuesday
________ November.

Both the teacher and her assistant helped each student on an individual basis as they worked. Again, all of the participants appeared to be actively involved with the task at hand.

After this exercise was reviewed by the whole class, the teacher went around the circle and asked each student the following questions: "When were you born?" "What day of the week were you born on?" After everyone had answered each question satisfactorily, the teacher moved on to a different topic.

The remaining 20 - 30 minutes of class were spent on a question/answer session. The teacher asked each class member a question such as "What is your favorite holiday?" or "What is your favorite month?" After they responded, they were then expected to ask the person on their right the same question. Finally, the teacher wove information needed to pass the citizenship test into the last few minutes of class discussion.

In particular, she concluded the two hour lesson by talking about the American flag. The students were asked questions about the number and significance of the stripes on the flag. Each student had to answer the questions in complete sentences.

Testing of Students

The "John" test which was recommended by BOCES was the only testing measure employed in the program. This test is an oral placement test for non-native speakers of English which was originally developed by ESL teachers. The test, administered to students individually and based on a series of pictures, contains three parts, each of which assesses a different language skill: Part I tests oral comprehension; Part II tests ability to produce connected discourse in the form of a past tense narrative; Part III tests ability to ask questions. According to the directions on the test, teachers have found the use of only Parts I and II sufficient to insure fairly accurate placement. Adding Part III, if time permits, can allow for finer placement distinctions. The manual states that the test takes minutes to administer. If part III is deleted, less time is needed. Using Parts I and II, the range of possible scores is from 0 to 81. The inclusion of Part III raises the maximum possible score to 100.

Teachers' Comments

The teachers expressed concern over several issues: the heterogeneity of the class, the "revolving door" nature of the program and the lack of time for proper testing of students. It was evident as we observed the class and spoke to the students that there was a wide range of skills in the class; some were fairly advanced speakers; others had poor oral skills. Only during the first half hour of the class were the teachers able to address the diverse needs of the class. The rest of the time was spent on group work.

Although each student was enthusiastic about the program, their primary obligation at the Psychiatric Center was to their job, not their studies. Therefore, if a student was unable to leave work for the first hour of class, they missed part of the lesson. In some cases, those students who had major responsibilities at home attended the program on a sporadic basis. The teacher reported that the class never had 100% attendance.

According to the teachers, the program's time constraints made it very difficult to test the students properly. The "revolving door" nature of the class only allowed for haphazard, inefficient testing.

Summary

What emerged as the key factors in making the Pilgrim State educational program a viable one were the dedication and professionalism of the teachers combined with the enthusiasm and motivation of their students. The well-prepared teachers worked hard to address the diverse needs of their students; most of their students, in turn, came to class despite time constraints and job and family responsibilities.

Observation of S.U.N.Y. Stony Brook ESL Program

The Program's Inception

Approximately two years ago, the Director of Stony Brook's Human Resource Department recognized a need for employee self development, in particular, for those Stony Brook employees who were not proficient speakers of English and were employed in clerical and janitorial positions. At that time, the Director submitted grant proposals to CSEA officials at Stony Brook requesting funding for ESL instruction. Unfortunately, the union did not have the money the program needed. Thus, the Director contacted BOCES which provided them with funding, materials, and teachers. Although the union could not offer financial assistance, it strongly supported the Director's initiatives and made a major commitment to assist BOCES and the Human Resource Department. The union was instrumental in acting as a liaison between management and the Center to recruit students for the program. Presently, the Human Resource Department's Senior Personal Administrator, Shirley Menzies, and the union president act as the ESL program's co-coordinators.

According to Ms. Menzies, when the program was first set up, there were only two classes, a beginning class and an intermediate/advanced class. Since the program has grown, the intermediate/advanced class has been split into two separate sections. At the moment, these three classes meet twice a week for 1 1/2 hours per class session for a 14 - 16 week semester. Forty two students are presently enrolled in the program: 11 students are in the advanced class; 19 students are enrolled in the intermediate level, and 12 students attend the beginning class.

Physical Environment

The intermediate class we observed meets twice a week in one of the academic classrooms located in the Social and Behavioral Science Building on Stony Brook's large, suburban campus. The room is clean and comfortable and has at least 25 desks and chairs to accommodate the 16 class members (12 women, two men) who were in attendance. A chalkboard is on the front wall near the door and the teacher's desk.

The Teacher

The instructor was an employee of the Patchogue-Medford School District and was responsible for teaching all three levels of the Stony Brook program. With a B.A. in ESL, she is working towards a master's degree in Liberal Studies from Stony Brook and has taken several graduate courses in ESL. She also teaches Adult Basic Education classes elsewhere.

It was not difficult to see that this teacher was held in high esteem by all of her students. Her enthusiasm, boundless energy and warmth captivated both her students and those who observed her. Testimony to her teaching abilities and devotion to her pupils is found in a recent ESL Employee Survey conducted by the Human Resources Department. In this survey, for example, two students report: "She is a good teacher. She not only knows how to teach, but also knows how to help students individually. Moreover, she always has patience with the students;" "She helps us a lot. She is sweet and kind as a teacher. I love her. She is a doll."

Through her own initiative, the teacher requested and will be receiving textbooks for every student in all three class sections. The three books, Basic English Grammar, Foundations of English Grammar, and Understanding and Using English Grammar, were written by Betty Schrampfer Azar and are recent publications of Prentice Hall.

The Students

In many respects, the Stony Brook students resemble their counterparts at the Pilgrim State Education Program. The Stony Brook population is also composed primarily of Hispanic immigrants with diverse skills whose ages range from the early twenties to late fifties. Ms. Menzies informed us that most of the students are employed in entry level office jobs or in the Housekeeping Department. Coming to school was also difficult for the Stony Brook students: Several started work before 7 a.m. and left their job before the late afternoon classes had even begun. These students had to drive back to Stony Brook from their home after their workday was long over. Others had to walk 15-20 minutes to get to class from their workplaces located on Stony Brook's large campus.

Like their counterparts at Pilgrim State, the Stony Brook students are enthusiastic and diligent participants of the program: many of them attend class to enhance their self-esteem and improve their communication skills, whereas some are enrolled in order to prepare for the GED test. Similarly, they are granted an hour and a half release time to attend class; the other 1 1/2 hours is their own time. Ms. Menzies informed us that occasionally the students' supervisors are reluctant to give their subordinates release time. However, through her and the union president's intercession with management, students are rarely prevented from attending class. We noted that Ms. Menzies strove to keep all channels of communication open with management, so that students would not be deprived of any program opportunities.

The Class Session

The teacher's 1 and 1/2 hour lesson centered on the past form of irregular verbs. The classroom activities ranged from oral recitation of the past tense of particular verbs to writing sentences using the past tense on the blackboard and in individual note books.

The instructor opened the lesson by stating the simple and past tense of several irregular verbs, e.g. "eat, ate; fly, flew..." which the students repeated aloud. She then asked the students to repeat sentences using the past tense, e.g. "I buy groceries; I bought groceries..." These verbal exercises continued for approximately 15 minutes.

After distributing index cards on which the present and past tense of an irregular verb were written, the teacher went around the room and asked each student to compose a sentence based upon the word they were holding up, e.g. "I fly to Florida; I flew to Florida...". This activity took approximately 15-20 minutes. At all times, the teacher referred to the student by name and would listen intently to pronunciation which she would then correct if necessary. Students also wrote their sentences on the chalkboard for group correction.

The last part of the class focused on each student asking a question using an irregular verb which in turn was answered by a classmate, e.g. " Did you eat rice and beans yesterday, Raphael?" "Yes, I ate rice and beans yesterday, Maria." This activity continued until every student had a chance to both ask and answer a question. The teacher then asked each student to compose a new question in their notebooks. Several students were "recruited" to write these new questions on the chalkboard for their classmates to read aloud. Finally, the class ended with a few words on the upcoming Easter holiday.

Testing of Students

Just as in the Pilgrim State program, the "John" test which was recommended by BOCES was the only testing measure used at Stony Brook. Ms. Menzies informed us that she first employed the test as a means of placing individual students in either the beginning or the intermediate/advanced classes. Unfortunately, she did not keep records of these initial test scores. Now, Ms. Menzies plans to administer the test 2-3 weeks into the term and at the end of each 14-16 week course instead of once every 40 weeks as suggested by BOCES.

Comments from the Teacher and Administrator

These two all-important members of the Stony Brook program voiced few complaints. They were very pleased with the sequential structure of the three classes and noted that a continuity existed within the program. The teacher, in particular, was very happy that her request for student textbooks was granted. Ms. Menzies' present goal is to increase the amount of time each level spends in class.

Testing, however, appeared to be a problem. Both the teacher and administrator agreed that it was very difficult to get students to be tested at all even though they would be tested by their teacher in familiar surroundings. Although very few students ever missed class, the majority of them managed to be absent during testing sessions. This student anxiety has created a situation where insufficient data exists on any of the program participants. It was noted that both the teacher and Ms. Menzies were quite anxious about the testing and their students' performances. This uneasiness might very well have been transferred to their students.

Summary

The Stony Brook ESL program has several unique components which make it an exemplary one. First, the industriousness and enthusiasm of the Human Resources department, in particular, Ms. Menzies, are invaluable assets in both starting and maintaining a program. Second, the cooperation of Stony Brook's local CSEA branch has been integral in maintaining good relations with management and assisting in the recruitment of potential students. Finally, the teacher also played an important role. Instead of being totally isolated with her students, she had frequent contact with Ms. Menzies who assists her in working towards a better program. Also, by teaching all three classes, the instructor has the opportunity for additional interaction and is available for her students beyond the classroom.

6.3 Data Analysis

Section 6.3.1 presents a descriptive statistical analysis for the following variables: gender, English as the primary language, educational level, and pre and post scores with respect to the number of hours per week spent reading, writing, viewing TV, and participating in the program. The statisical analysis of the post-pre score gains on the JOHN Test and the three scales of the SKILLS Profile (writing, reading, confidence) is given in section 6.3.2.

6.3.1 General Background Data

Table 9 contains frequency distributions with respect to the background variables of gender, English as a primary language, and educational level. In addition, Table 9 presents pre and post means and standard deviations for the the number of hours per week of reading, writing, TV viewing, and participation in the program. In total, there were N =13 students enrolled in the Pilgrim State Program, and N = 37 students enrolled in the Stony Brook Program. The results presented in Table 9 are not based on all 50 students since there were missing data for all of the variables.

Table 9 Background Data

	% Male	% Female
SEX	21.6	78.4

	% Yes	% No
English Primary Language	0.0	100.0

	Grade	Frequency	Percent
Education Level	4	5	13.2
	5	1	2.6
	6	3	7.9
	7	3	7.9
	8	7	18.4
	9	3	7.9
	10	1	2.6
	11	4	10.5
	12	9	23.7
	16	2	5.3

	Pre		Post	
	Mean	Std	Mean	Std
Hrs Reading/wk	5.5	3.5	6.5	8.3
Hrs Writing/wk	3.8	4.2	5.0	6.1
Hrs TV/wk	9.7	5.7	9.3	6.9
Hrs in Program/wk	6.2	0.6	10.4	14.0

An inspection of the background data presented in Table 9 shows the following:

- 22 percent of the students were male, and 78 percent were female.

- * As expected, English was not the primary language for any of the students.
- * The median educational level was the eighth grade. Although approximately 25 percent of the student have an educational level of 6 or less, approximately 30 percent have a level of 12 or more.
- * The pre and post means for the variables of weekly hours of reading, writing, TV viewing, and program participation are respectively, 5.5-6.5, 3.8-5.0, 9.7-9.3, and 6.2-10.4.

6.3.2 Statistical Analysis of Post-Pre Gains

Table 10 contains an analysis of the post-pre score gains for the JOHN test as well as the Writing, Reading and Confidence scales of the SKILLS Profile. Two analyses are presented in the Table. The first is simply based on the observed data and presents the pre and post score means and standard deviations. The pre score data were obtained from the Pilgrim State site and the post scores from the Stony Brook site. The second analysis is based of a regression adjustment in the pre and post scores as a function of educational level. The rationale for this analysis was previously described in section 3.2.2. The analysis results in adjusted pre and post means, the standard errors of the means, and a t-test of the significance of the adjusted gain . It should be noted that the average educational level for the Pilgrim State students was 9.77 while the corresponding mean for the Stony Brook students was 8.56. This discrepency points to the need to adjust for the educational level variable. In interpreting the results in Table 10 it should be noted that the possible range of scores for the JOHN test was from 0 to 100. The possible ranges for the SKILLS Writing, Reading, and Confidence scales were 0-9, 0-20, and 0-8 respectively.

Table 10 Pre and Post Analysis for the JOHN and Skills Scales *

Observed Data

	PRE			POST			
	N	Mean	SD	N	Mean	SD	Gain
JOHN	13	42.3	16.8	36	47.6	19.5	5.3
S-Write	11	3.0	2.0	19	4.3	2.4	1.3
S-Read	11	10.1	3.0	17	10.4	3.7	.3
S-Conf	11	4.7	1.5	14	4.8	1.3	.1

Data Adjusted for Educational Level

	Pre Scores		Post Scores			
	Mean	Stderror	Mean	Stderror	Gain	t-value
JOHN	40.30	2.63	51.90	2.67	11.60	3.00 $p<.01$
S-Write	2.33	0.32	4.27	0.35	1.94	4.10 $p<.01$
S-Read	9.55	0.51	10.31	0.55	.76	1.02 ns
S-Conf	4.36	0.24	4.79	0.21	.43	1.34 ns

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* The pre and post scores were obtained from different samples.

The following results can be seen in Table 10

The adjustment for educational level increases the size of the gain as compared to the Observed Data analysis.

The post - pre score gains computed in terms of the observed data are all positive but are relatively small.

When the post-pre score gains are adjusted for differences in average educational level between the two sites a significant gain of nearly 12 points is observed for the JOHN test.

A significant adjusted gain of nearly two points is observed for the Writing Scale of the SKILLS Profile.

6.4 Summary of the Evaluation of the ESL Program.

The information obtained from the site visit to Pilgrim State Psychiatric Center clearly suggests that the program is an important and potentially beneficial experience for CSEA workers for whom English is not the primary language. There is a clear need for ESL programs. The students in the classes reported that they were taking the course in order to pass personnel tests needed for promotions and pay increases , to pass the citizenship test, and in general, to "get ahead". It is clear from the report written by the ESL specialist that the teachers at both sites are both well trained and dedicated professionals. All of the texts used by the instructors were current in the ESL field. Most importantly, the students felt the program is highly beneficial.

The statistical analysis of the pre and post data for the JOHN test and the three scales of the SKILLS Profile (Writing, Reading, and Confidence) was complicated by the lack of paired pre and post data. However, a comparison between the pre and post means was performed after adjusting for possible systematic differences between the pre score and post score students. Positive gains were observed for all four variables. Further the gains for the JOHN test and the Writing scale of the SKILLS Profile were statistically significant.

7. Summary and Recommendations

This report has presented evaluative data on the four components of Project REACH:

One-on-One (tutor-tutee pairs)

PALS (computer assisted instruction in small groups)

People Reaching People (the use of videotapes to improve job skills)

English as a Second Language

Various data were available for the evaluation. First, site visits were made to the following locations: the PALS programs at Wassaic Development Center and Creedmore Psychiatric Center, the ESL programs at Pilgrim State Psychiatric Center and SUNY Stony Brook, and the People Reaching People program at the Letchworth Village Development Center. Secondly, the instructor's manual for the People Reaching People Program was critically reviewed. Thirdly, background information and pre and post test data were obtained for each student. This data base can be described as follows:

Data for the One-On-One program:

(a) Background information

(b) Pre and post score data on the the SKILLS Profile -a self report measure which yielded scores on three scales, Writing, Reading and Confidence,

(c) Pre and post scores on the three scales of the READ Test (Word Reasoning, Reading Comprehension, and Listening),

(d) Pre score data on the Sample Job Application Form (SJAF), a measure of job related reading skills.

(e) Narrative data on individual tutees.

Data for the PALS Program

(a) Background information

(b) Pre and post scores on the three scales of the SKILLS Profile,

(c) Pre and post scores on the TABE test, a measure of adult reading level.

(d) Pre and post scores on the Sample Job Application Form.

Data for the People Reaching People Program

(a) Background information

(b) Pre and post scores on the three scales of the SKILLS Profile

(c) Pre and post scores on the TABE reading test.

Data for the English as a Second Language Program

(a) Background information

(b) Pre and post scores on the three scales of the SKILLS Profile

(c) Pre and post scores on the JOHN test.

The site visits all provided positive feedback concerning the day to day operation of the programs. At all of the sites it was clear that the program instructors and administrators were highly competent, conscientious, and motivated individuals. Very importantly, it was clear that the students felt that the programs were beneficial. At the ESL sites, it was gratifying to observe students learning to become proficient in the English language. The visits to the PALS sites revealed that the programs now employ more advanced reading and writing materials as compared to the first year of the program. The visit to the People Reaching People Program showed that the instruction was focused on the development of job related skills.

Dr. Mildred Lee of the Center for the Advanced Study of Education critically reviewed the modifications and enhancements in the teacher's manual used as part of the People Reaching People Program. Dr. Lee concluded that the revised manual represented a major improvement since it incorporates valuable teaching strategies and lesson plans to accompany the videotapes. However, it was felt that the manual still lacks a "concerted, sustained, and ongoing lesson-by-lesson approach to basic (reading) skills building".

A major focus of the evaluation was the investigation of gains in the various tests and measures which were administered to the students. The statistical analysis of these gains was not straightforward due to the relatively large amount of missing data. However, it was possible to investigate the gains in terms of the observed data by employing statistical methods which make adjustments for the missing data. The following positive results were found:

PALS Program:

A statistically significant gain of nearly one grade level on the TABE Reading Test

English as a Second Language:

A statistically significant gain of twelve points on the JOHN test.

A statistically significant gain of two points on the Writing Scale of the SKILLS Profile.

People Reaching People:

Positive gains were found on all measures, the TABE test and the three scales of the SKILLS Profile. These differences were not tested for significance due the small sample size.

The analysis of gains for the Tutor-Tutee program did not produce any statistically significant gains although a positive gain was evidenced for the Listening Level Scale of the READ test. These results can in part be attributed to a deficiency in the measuring instruments. More specifically, the READ test appeared to be too easy for a substantial number of students. Since these students scored at the top end of the scale on the pre-test it was not possible to detect the true gains. In future evaluations, there is a clear need for replacing the READ test with a measure having a wider reading level range. Although statistically significant results were not observed, it should be noted that the qualitative data collected on individual tutees strongly suggests that the program is having a positive impact.

Based on this examination of Project REACH, the CASE Evaluation Team concludes that all four components of the program continue to show potential and are effective. In the 1987-1988 evaluation of Project REACH, the program was commended in several areas: (a) responding to an urgent and pervasive need to improve literacy skills in the workplace among New York State government workers as documented in the Cybernetica report, (b) providing a familiar and non-threatening environment by offering all of the instruction in the workplace, (c) arranging for the release time of program participants, (d) noting that GOER staff members as well as tutors and PALS lab personnel were conscientious, hard working, dedicated, and highly motivated individuals. Based on our examination of the second year of the project, it is felt that all of these commendations equally apply to the second year of the program. The following additional comments can be made based on the second year evaluation:

* The expansion of the REACH program to include the People Reaching People component and the English as a Second Language program represent important and meaningful new directions for the program. The PRP program applies literacy training to the actual workplace, while the ESL program addresses the needs of CSEA workers who are not proficient in English.

* The introduction of the Advanced PALS programs has enabled PALS coordinators to introduce the students to more advanced reading and mathematical

material. These materials basically comprise an individualized computer assisted instructional program. The material is especially useful for students who either enter the program with more than marginal skills or for students who have completed the first phase of the PALS program.

In the 1987-1988 report several recommendations were offered concerning potential improvements in the program. The following additional recommendations based on the current evaluation are as follows:

- An analysis of the biographical data for the students participating in the Tutor-Tutee, PALS, and PRP programs showed that a substantial number of students did not speak English as their primary language. It is likely that many of these students would benefit from an ESL program prior to entering one of the other three REACH programs. It is recommended that students be carefully screened with respect to their language competence and first placed in an ESL program if needed. A second approach would be to modify the reading programs so as to accommodate ESL needs. In other words, it might be possible to offer reading and ESL instruction simultaneously.

- The issue of valid measures and tests in documenting the success of a program is still an important one for Project REACH. It is not clear if normative measures such as the READ and TABE tests are valid measures of adult workplace literacy. The introduction of the Sample Job Application Form represents an attempt to develop a valid measure of workplace literacy. It is recommended that additional research be conducted with respect to the Sample Job Application Form and other workplace relevent criterion referenced measures. It would also be useful to develop performance measures to asssess reading proficiency in settings outside the job. Unless such measures are developed, it will be difficult to accurately assess the impact of any literacy program. A second measurement problem is the ceiling effect that occurs when a measure is too easy for the examinees. This problem was observed for the READ test when many students obtained the maximum score on the pre test.

- The issue of the need for a more organized and complete system of data collection was stressed in the previous report. This problem remains during the second year of the program. Relatively large amounts of missing data were encountered in the analysis of post-pre score gains. Although statistical methods which make adjustments for the missing data were employed, the lack of complete data effectively reduces the sample sizes and decreases the sensitivity of the statistical analysis, i.e., its ability to detect gains. By providing complete pre-/post-test data for such a small number of participants, it is possible that a disservice was done regarding the ultimate effect of Project REACH on literacy skills. It is recommended that the need for complete and objective data collection be stressed to all site coordinators and tutors as part of their training.

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APPENDIX

Table A1. One on One Program: Pre and Post Responses to the SKILLS Profile.
(Npre = 22 Npost = 12)

Question	Pre %yes	Post %yes	Diff %yes
(1) I have the writing and reading skills I need.	0.0	8.3	11.1
(2) I can recognize all the letters of the alphabet.	100.0	100.0	0.0
(3) I would feel more self-confident if I could improve my reading and writing skills.	100.0	100.0	0.0
(4) My job requires some reading.	81.8	75.0	-22.2
(5) My job requires some writing.	63.6	75.0	-11.1
(6) I have problems with spelling.	90.9	91.7	0.0
(7) I have problems expressing my ideas when I talk.	54.5	58.3	-22.2
(8) I have difficulty expressing myself in writing.	90.9	91.7	0.0
(9) I have problems reading aloud.	86.4	91.7	-11.1
(10) I have tried to develop my reading skills by myself.	95.5	91.7	0.0
(11) I think I can improve my reading and writing skills through this program.	100.0	100.0	0.0
(12) I read at home.	77.3	91.7	11.1
(13) I can read newspapers.	63.6	50.0	-11.2
(14) I can read magazines.	59.1	50.0	0.0
(15) I can read labels	86.4	75.0	-11.1
(16) I can read novels and short stories.	54.5	50.0	-11.2
(17) I write shopping lists.	36.4	41.7	0.0
(18) I write notes to myself.	40.9	33.3	-22.3

(19) I write my thoughts and feelings.	9.1	16.7	0.0
(20) I have problems reading numbers.	9.1	8.3	0.0
(21) I like to talk about what I read.	81.0	66.7	0.0
(22) I have difficulty reading menus.	50.0	41.7	-22.3
(23) I have difficulty reading maps.	63.6	83.3	-11.1
(24) I have difficulty reading job instructions.	47.6	54.5	-37.5
(25) I have difficulty reading street signs.	27.3	27.3	-11.3
(26) I think there are some important things I miss out on because of my reading level.	90.9	83.3	-11.1
(27) It is difficult for me to fill out forms.	81.8	83.3	11.1
(28) I find employment applications confusing.	71.4	75.0	-12.5
(29) I have problems writing checks or money orders.	54.5	58.3	11.1
(30) I feel sorry for myself because of my reading skills.	63.6	33.3	-11.2
(31) I am embarrassed at times because of my reading level.	77.3	66.7	-22.2
(32) I can read from the Bible.	54.5	41.7	11.2
(33) I vote.	72.7	66.7	-11.1
(34) I can read election ballots.	40.9	50.0	22.2
(35) I consider myself a capable worker.	100.0	100.0	0.0
(36) I can read the contents on cans and packages.	86.4	75.0	0.0

Table A2 PALS Program: Pre and Post Responses to the SKILLS Profile
(Npre = 68 Npost = 22)

Question	Pre %yes	Post %yes	Diff %yes
(1) I have the writing and reading skills I need.	39.4	59.5	16.7
(2) I can recognize all the letters of the alphabet.	92.6	97.4	14.3
(3) I would feel more self-confident if I could improve my reading and writing skills.	100.0	100.0	0.0
(4) My job requires some reading.	89.7	81.6	0.0
(5) My job requires some writing.	85.3	84.2	7.1
(6) I have problems with spelling.	85.1	83.8	0.0
(7) I have problems expressing my ideas when I talk.	52.9	73.0	28.5
(8) I have difficulty expressing myself in writing.	80.9	81.1	-7.2
(9) I have problems reading aloud.	75.0	65.8	-7.2
(10) I have tried to develop my reading skills by myself.	95.6	97.4	0.0
(11) I think I can improve my reading and writing skills through this program.	98.5	97.4	0.0
(12) I read at home.	85.3	81.1	-15.4
(13) I can read newspapers.	73.5	81.6	14.3
(14) I can read magazines.	66.2	81.6	21.4
(15) I can read labels	91.0	94.7	-7.7
(16) I can read novels and short stories.	70.1	73.7	0.0
(17) I write shopping lists.	64.7	81.6	-7.1
(18) I write notes to myself.	60.3	69.4	-7.2

(19) I write my thoughts and feelings.	38.8	43.2	0.0
(20) I have problems reading numbers.	22.1	31.6	-7.1
(21) I like to talk about what I read.	83.6	83.3	7.7
(22) I have difficulty reading menus.	49.3	25.0	-30.7
(23) I have difficulty reading maps.	60.3	47.9	-8.3
(24) I have difficulty reading job instructions.	46.3	30.6	-15.3
(25) I have difficulty reading street signs.	29.9	27.8	7.7
(26) I think there are some important things I miss out on because of my reading level.	80.6	77.8	-15.4
(27) It is difficult for me to fill out forms.	63.2	34.3	-23.1
(28) I find employment applications confusing.	58.8	45.9	-15.4
(29) I have problems writing checks or money orders.	40.3	30.6	0.0
(30) I feel sorry for myself because of my reading skills.	43.8	45.9	0.0
(31) I am embarrassed at times because of my reading level.	66.7	59.5	-30.8
(32) I can read from the Bible.	58.2	61.1	-15.4
(33) I vote.	52.2	55.6	8.3
(34) I can read election ballots.	59.7	70.3	8.3
(35) I consider myself a capable worker.	100.0	97.3	-7.7
(36) I can read the contents on cans and packages.	91.0	94.4	0.0

Table A3 PRP Program: Pre and Post Responses to the SKILLS Profile (Npre = 6 Npost = 6)

Question	Pre %yes	Post %yes	Diff %yes
(1) I have the writing and reading skills I need.	33.3	66.7	33.4
(2) I can recognize all the letters of the alphabet.	83.3	100.0	16.7
(3) I would feel more self-confident if I could improve my reading and writing skills.	100.0	100.0	0.0
(4) My job requires some reading.	100.0	100.0	0.0
(5) My job requires some writing.	100.0	100.0	0.0
(6) I have problems with spelling.	66.7	16.7	-50.0
(7) I have problems expressing my ideas when I talk.	83.3	66.7	-16.6
(8) I have difficulty expressing myself in writing.	33.3	16.7	-16.6
(9) I have problems reading aloud.	33.3	50.0	16.7
(10) I have tried to develop my reading skills by myself.	83.3	83.3	0.0
(11) I think I can improve my reading and writing skills through this program.	100.0	100.0	0.0
(12) I read at home.	100.0	100.0	0.0
(13) I can read newspapers.	100.0	100.0	0.0
(14) I can read magazines.	100.0	100.0	0.0
(15) I can read labels	100.0	100.0	0.0
(16) I can read novels and short stories.	100.0	100.0	0.0
(17) I write shopping lists.	100.0	100.0	0.0
(18) I write notes to myself.	100.0	100.0	0.0

(19) I write my thoughts and feelings.	66.7	66.7	0.0
(20) I have problems reading numbers.	0.0	0.0	0.0
(21) I like to talk about what I read.	100.0	100.0	0.0
(22) I have difficulty reading menus.	0.0	16.7	16.7
(23) I have difficulty reading maps.	50.0	33.3	-16.7
(24) I have difficulty reading job instructions.	0.0	0.0	0.0
(25) I have difficulty reading street signs.	0.0	0.0	0.0
(26) I think there are some important things I miss out on because of my reading level.	66.7	33.3	-33.4
(27) It is difficult for me to fill out forms.	0.0	0.0	0.0
(28) I find employment applications confusing.	16.7	0.0	-16.7
(29) I have problems writing checks or money orders.	0.0	0.0	0.0
(30) I feel sorry for myself because of my reading skills.	16.7	16.7	0.0
(31) I am embarrassed at times because of my reading level.	33.3	16.7	-16.6
(32) I can read from the Bible.	67.7	100.0	32.3
(33) I vote.	16.7	50.0	33.3
(34) I can read election ballots.	60.0	75.0	15.0
(35) I consider myself a capable worker.	100.0	100.0	0.0
(36) I can read the contents on cans and packages.	100.0	100.0	0.0

Table A4 ESL Program: Pre and Post Responses to the SKILLS profile for the ESL Program (Npre = 13 Npost = 25)

Question	Pre %yes	Post %yes
(1) I have the writing and reading skills I need.	7.7	62.5
(2) I can recognize all the letters of the alphabet.	100.0	80.0
(3) I would feel more self-confident if I could improve my reading and writing skills.	100.0	95.5
(4) My job requires some reading.	100.0	82.6
(5) My job requires some writing.	100.0	70.8
(6) I have problems with spelling.	100.0	70.8
(7) I have problems expressing my ideas when I talk.	76.9	83.3
(8) I have difficulty expressing myself in writing.	92.3	80.0
(9) I have problems reading aloud.	83.3	68.2
(10) I have tried to develop my reading skills by myself.	67.7	81.8
(11) I think I can improve my reading and writing skills through this program.	100.0	90.0
(12) I read at home.	92.3	69.6
(13) I can read newspapers.	53.8	33.3
(14) I can read magazines.	53.8	37.5
(15) I can read labels	76.9	56.5
(16) I can read novels and short stories.	61.5	58.3
(17) I write shopping lists.	53.8	52.2
(18) I write notes to myself.	75.0	59.1
(19) I write my thoughts and feelings.	15.4	47.1

(20) I have problems reading numbers.	15.4	18.2
(21) I like to talk about what I read.	92.3	89.5
(22) I have difficulty reading menus.	30.8	50.0
(23) I have difficulty reading maps.	50.0	70.8
(24) I have difficulty reading job instructions.	41.7	33.3
(25) I have difficulty reading street signs.	30.8	21.7
(26) I think there are some important things I miss out on because of my reading level.	69.2	65.0
(27) It is difficult for me to fill out forms.	50.0	36.4
(28) I find employment applications confusing.	41.7	45.5
(29) I have problems writing checks or money orders.	46.2	29.2
(30) I feel sorry for myself because of my reading skills.	66.7	54.5
(31) I am embarrassed at times because of my reading level.	83.3	66.7
(32) I can read from the Bible.	50.0	29.2
(33) I vote.	41.7	29.2
(34) I can read election ballots.	46.2	37.5
(35) I consider myself a capable worker.	100.0	91.3
(36) I can read the contents on cans and packages.	84.6	59.1

INSTRUCTIONS AND TEST FORMS

PROJECT REACH

INSTRUCTIONS FOR OBTAINING STUDENT INFORMATION

As part of the evaluation of Project REACH, we are gathering information on each of the students participating in the Program. All information will be kept confidential. Please supply the following package of information:

(1) TEST SUMMARY INFORMATION FORM. On this form list for all students the following information: social security numbers, test scores, and the dates the tests were given.

(2) The BACKGROUND DATA CHECKLIST and the SKILLS PROFILE. These forms should be completed by each student, with your help.

(3) The SAMPLE APPLICATION FORM. This form should be filled out without any help. Instructions for this form are attached for your convenience.

Please return the requested information to the following address within two weeks.

Dr. Alan L. Gross
Department of Educational Psychology
Graduate Center, C.U.N.Y.
33 West 42 Street
New York, N.Y. 10036

Please call Dr. Gross at 212-642-2254 if you have any questions. Thank you for your help and attention.

PROJECT REACH

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PROJECT REACH

BACKGROUND DATA CHECKLIST

TODAY'S DATE ______________________________

PLACE A CHECK NEXT TO THE PROGRAM IN WHICH YOU ARE CURRENTLY ENROLLED.

____ (A) PALS

____ (B) ONE-ON-ONE (TUTOR-TUTEE PROGRAM)

____ (C) ENGLISH AS A SECOND LANGUAGE (ESL)

____ (D) PEOPLE REACHING PEOPLE

SOCIAL SECURITY NUMBER: ____________________________

CHECK ONE: MALE ______ FEMALE ______

HIGHEST GRADE COMPLETED IN SCHOOL: ___________________

IS YOUR FIRST LANGUAGE ENGLISH? YES _____ NO _____

IF NO, INDICATE YOUR FIRST LANGUAGE __________________

PRESENT JOB TITLE: _________________________________

NAME OF TOWN OR CITY WHERE YOUR CLASS OR TUTORING IS HELD:

____

PROJECT REACH

SKILLS PROFILE

TODAY'S DATE____

SOCIAL SECURITY NUMBER:______________________________

PLACE A CHECK NEXT TO THE PROGRAM IN WHICH YOU ARE CURRENTLY ENROLLED: ____(A) PALS ____(B) ONE-ON-ONE ____(C) ESL ____(D) PEOPLE REACHING PEOPLE.

NAME OF TOWN OR CITY WHERE YOUR CLASS OR TUTORING IS HELD
____.

Please check YES or NO to the statements below.

		YES	NO
1.	I have the reading and writing skills I need.	___	___
2.	I can recognize all the letters of the alphabet.	___	___
3.	I would feel more self confident if I could improve my reading and writing skills.	___	___
4.	My job requires some reading.	___	___
5.	My job requires some writing.	___	___
6.	I have problems with spelling.	___	___
7.	I have trouble expressing my ideas when I talk.	___	___
8.	I have difficulty expressing myself in writing.	___	___
9.	I have problems reading aloud.	___	___
10.	I have tried to develop my reading skills by myself.	___	___
11.	I think I can improve my reading and writing skills through this program.	___	___
12.	I read at home.	___	___

SOCIAL SECURITY NUMBER:______________________________

TODAY'S DATE______________________________________

		YES	NO
13.	I can read newspapers.	____	____
14.	I can read magazines.	____	____
15.	I can read labels.	____	____
16.	I can read novels and short stories.	____	____
17.	I write shopping lists.	____	____
18.	I write notes to myself.	____	____
19.	I write my thoughts and feelings.	____	____
20.	I have problems reading numbers.	____	____
21.	I like to talk about what I read.	____	____
22.	I have difficulty reading menus.	____	____
23.	I have difficulty reading maps.	____	____
24.	I have difficulty reading job instructions.	____	____
25.	I have difficulty reading street signs.	____	____
26.	I think there are some important things I miss out on because of my reading level.	____	____
27.	It is difficult for me to fill out forms.	____	____
28.	I find employment applications confusing.	____	____
29.	I have problems writing checks or money orders.	____	____
30.	I feel sorry for myself because of my reading skills.	____	____
31.	I am embarrassed at times because of my reading level.	____	____
32.	I can read from the Bible.	____	____
33.	I vote.	____	____

SOCIAL SECURITY NUMBER:____________________________

TODAY'S DATE______________________________________

	YES	NO
34. I can read election ballots.	___	___
35. I consider myself a capable worker.	___	___
36. I can read the contents on cans.	___	___

Please fill in the number to complete the additional statements below:

37. I spend about _____ hours reading each week.

38. I spend about _____ hours writing each week.

39. I spend about _____ hours watching TV each week.

40. I spend about _____ hours working on this literacy program each week.

Guidelines for Administering the SAMPLE APPLICATION FORM

This is not a real application form. The purpose of this form is to help us obtain information on the current reading and writing skills of your tutee or students. Finding out how well they perform tasks such as this will help us document their success and will also help us make recommendations for further development of appropriate teaching methods.

Please ask your tutee/student to complete the attached forms, as follows:

1. Hand out the forms.

2. Ask tutee/students to fill in the information at the top of the page: the social security number, the date, the program they are in and the location of the program. You may help the student with this portion of the form only. It is imperative that this part of the form be filled out.

3. Read the paragraph at the top of the form aloud to the tutee/students. Do not read any other words on the form.

4. Assure them that what they fill in will be confidential. We are not asking for names or addresses.

5. Ask tutee/students to work alone in filling out the form. If you are giving this to a group, ask students to cover their work to maintain privacy. It is important that the form be filled in independently. Therefore, if you are asked for help, please encourage the tutee/students to fill in the form to the best of their ability but do not help them.

6. Tell them they should do as well as they can and that it does not matter if they make mistakes. It is not a test like they would get in school. The important thing is for them to do the best they can.

7. Ask tutee/students to begin working. They should work without further discussion or help. When they are finished, they should hand the forms back to you. Please do not give them any feedback on how they did.

Thank you for your cooperation.

Social Security Number: ____________________
Today's Date: ______________________________
Check your program: PALS _____ Tutor/Tutee _____
Name of town or city where your class or tutoring is held:
____

SAMPLE APPLICATION FORM

This is *not* a real application form. The purpose of this form is to find out what help people need with reading and writing. We are *not* asking for your name and address. This means that what you write is confidential. Thank you for your help.

Answer all questions. Please print.

1. Sex: Male _____ Female _____

2. Ethnic origin (check one): Hispanic ____ Black ____

White ____ American Indian/Alaskan Native ____ Asian or

Pacific Islander ____

3. What language(s) do you speak at home? ______________________

4. Do you have a Driver's License? Yes ____ No ____

Education

5. Please circle the last year of school you have completed.

K 1 2 3 4 5 6 7 8 9 10 11 12

6. Name of High School __________________ Location ____________

7. Did you graduate from High School or receive a G.E.D.?
Yes ____ No ____

Name of State where G.E.D. was received ___________________

8. Do you have plans for further education? Yes ___ No ___ If

Yes, describe. ____

Employment History

9. Current employer: ____________________

Current job title: ______________________________

10. List your current job duties ______________________________

____

11. What kind of job would you like in the future? ____________

____

12. Describe your last job.

Job Title ____________________ Employed from: ______ to: _____

Reason for leaving ______________________________

Questions 13, 14 and 15

For some people, it is very important to live very near where they work. It is so important to them that they would even work for lower pay if they could work near home. Mrs. A. is a person like this. Other people do not care how far away their job is from home. For them, earning good pay is more important than working close to home. Mrs. B. is a person like this.

13. Mrs A. is probably: (check one)
   - ___ (a) A young woman who wants to earn a lot of money and doesn't mind traveling a long way to work.
   - ___ (b) A mother with a young child who wants to get home as soon as possible after work.
   - ___ (c) A middle-aged man who lives alone.
   - ___ (d) An unemployed woman who is not looking for a job right now.

14. What is the maximum distance that you estimate Mrs. A. would consider traveling to work? ______________________

15. Which of the above-mentioned individuals do you think indicated during an employment interview that she had no particular preference for working near her place of residence? (check one)

Mrs. A. ____ Mrs. B. ____ Neither _____

PROJECT REACH

TEST SUMMARY INFORMATION FORM

PEOPLE REACHING PEOPLE PROGRAM

City or Town where your lab is located ____________________

For each student in your program, enter the following information:

(1) Social Security Number
(2) TABE Test Score
(3) Date test was administered

Social Security #	TABE Score	Administration Date
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		
11.		
12.		
13.		
14.		
15.		
16.		
17.		
18.		
19.		
20.		
21.		
22.		
23.		
24.		
25.		

PROJECT REACH

TEST SUMMARY INFORMATION FORM

ESL PROGRAM

City or Town where your lab is located ____________________________

For each student in your program, enter the following information:

(1) Social Security Number
(2) JOHN Test Score
(3) Date test was administered

Social Security #	JOHN Score	Administration Date
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		
11.		
12.		
13.		
14.		
15.		
16.		
17.		
18.		
19.		
20.		
21.		
22.		
23.		
24.		
25.		

PROJECT REACH

TEST SUMMARY INFORMATION

PALS PROGRAM

City or Town where your lab is located ____________________________

For each student in your program, enter the following information:

(1) Social Security Number
(2) TABE Test Score
(3) Date test was administered

Social Security #	TABE Score	Administration Date
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		
11.		
12.		
13.		
14.		
15.		
16.		
17.		
18.		
19.		
20.		
21.		
22.		
23.		
24.		
25.		

PROJECT REACH

TEST SUMMARY INFORMATION FORM

TUTOR-TUTEE PROGRAM

City or Town where your lab is located ____________________________

For each student in your program, enter the following information:

(1) Social Security Number
(2) READ Test Scores: a. Word Reasoning (WR)
b. Reading Comprehension (RC)
c. Listening Level (LL)
(3) Date test was administered

READ SCORES

Social Security #	WR	RC	LL	Administration Date
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				